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HIGH DEMAND OCCUPATIONS IN MASSACHUSETTS 1981

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Commonwealth of Massachusetts

Executive Office of Economic Affairs
Occupational Information Coordinating Committee
Department of Manpower Development
Division of Employment Security

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The majority of the work was performed by individuals from the following agencies:

Division of Employment Security
Job Market Research Division

Department of Manpower Development
Policy and Evaluation Division

Massachusetts Occupational Information Coordinating
Committee

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I. INTRODUCTION

PURPOSE OF REPORT

Fewer things are more frustrating to an individual seeking employment or considering a career change than the inability to get timely and relevant information about the nature of the job market and the extent of training opportunities available. Many people think that such information is readily available in a convenient format for individual job seekers, counselors, or job developers. Yet at one time or another, we discover that much of the occupational information is obscure (designed primarily for academics or researchers), much of it is outdated or not detailed enough, and some information simply doesn't exist.¹ It was in recognition of this need that High Demand Occupations in Massachusetts - 1981 was prepared, through an interagency coordinated effort. The information contained in this report is specifically designed to meet the needs of individuals in Massachusetts who are currently considering a job or career change or who are responsible for providing guidance on such matters to other individuals.

CONTENT OF REPORT

Section III of this report contains information on 50 separate occupations. The sequence of the report is arranged alphabetically by occupation, but there is also an index of the occupations by major occupational cluster. These occupations were selected because they are projected to grow at a relatively fast rate and/or they employ large numbers of individuals in the state. We have included information on such items as typical job duties, working conditions, wages, promotional opportunities and educational or training requirements. Section IV contains information on the major industries

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To be fair, the problem stems from two facts. First, this information is difficult and expensive to produce and the mandates for its production are frequently unclear. Second, the information components are produced by many different agencies and organizations.

employing people in a particular occupation. As in Section III, the occupations are arranged alphabetically.

A variety of sources were used in preparing this report and by putting it all in one document we hope to have saved readers time and effort which otherwise would have been spent tracking down bits and pieces of information. We realize that this publication will not have the comprehensiveness or the level of detail necessary to meet everyone's needs nor was this intended. Therefore, in addition to the specific information on fifty high-demand occupations, we have included descriptions of other documents or organizations where additional information can be obtained in Section II.

SUGGESTIONS ON THE USE OF THIS REPORT

The usefulness of this report will depend on one's background. For example, an individual job seeker will probably focus in on a few specific occupations, while a guidance counselor may be more concerned with maintaining an awareness of all the occupations and relating this information to the desires and aptitudes of individual clients. Whatever background the reader brings, we suggest that this document be viewed in the context of a total package of information and services which are available from various state and local institutions. The report itself is useful, but in many cases it will serve to direct one to other more specific sources of information.

For those of you who are aware of your own interests and aptitudes, this document represents a concise, yet extensive survey of many occupations in a broad array of industries. Naturally, once you have narrowed down the number of occupations relevant to your particular interests and background, there will be more questions. At this point, some of the supplementary sources of information should be consulted.

A guidance counselor will typically have a caseload of individuals manifesting a wide range of skills, education and interests. A familiarity with the contents of this publication provides one with the ability to relate an individual client's needs to specific job requirements. For convenience we have included the appropriate DOT (Dictionary of Occupational Titles) code and USOE (United States Office of Education) program title and the census code for each of the occupations. This is intended to facilitate the matching of individuals with specific occupations and training programs.

Knowledge about the industries which actually hire workers in a particular occupation is critical in the job hunting or career guidance process. It doesn't do one much good to know that a particular occupation is in high demand and not know who the major employers for this occupation are. The section containing a list of the major industries, by occupation, should be particularly useful to local job placement specialists and job developers, who are responsible for contacting employers on behalf of their clients. This industry list can be reviewed and, using supplementary information, one can develop the names of specific employers with jobs in that occupation who might possibly be hiring.

DATA LIMITATIONS

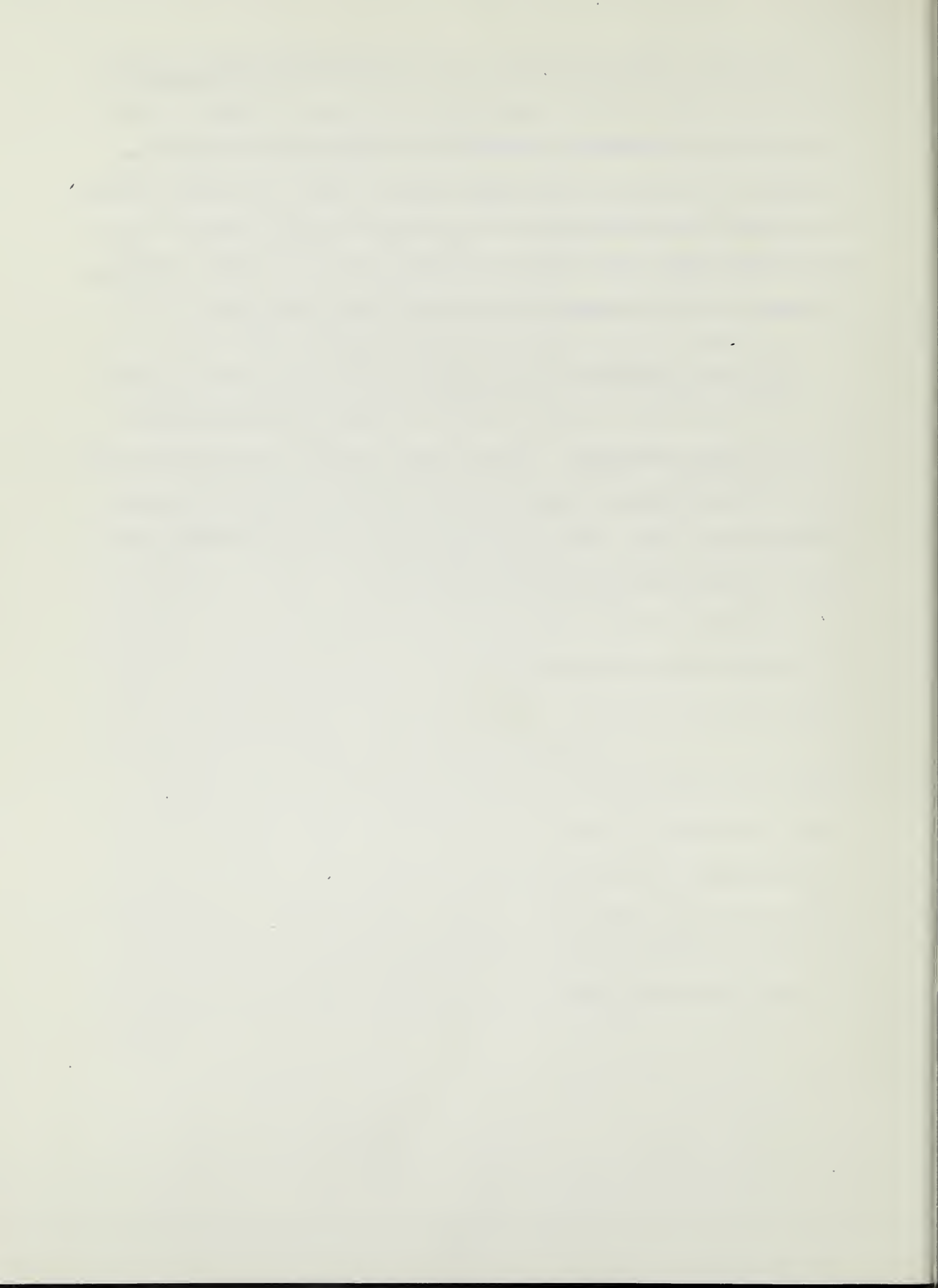
The numerical information in this report is based on the best and most current available data. There are, however, certain limitations of which the reader should be aware. First, the projections of job openings which are done for the nation and all the states only count those openings available due to departures from the labor force and those due to growth in the total number of people employed in the occupation. There are of course, many openings which are created when an individual is promoted or transferred to a new job.

Second, keep in mind that the projected openings and growth rates for each occupation reflect trends. The absolute number is not as important as the direction and relative magnitude of the trend. For example, job openings for Bank & Financial Managers are projected to grow by 6.0% per year. This opening rate is over 20% higher than the statewide openings rate for all occupations. The 6.0% openings rate means that there will be approximately 850 openings per year. We do know that the trend is upward and we know the approximate magnitude.

Third, making projections is inherently a risky business; any attempt to forecast the future is. The best way to reduce the risk is to revise projections as often as possible. In Massachusetts, the projections are usually updated every two years. The set used in the report was released in December 1979. A new set of projections will be published in late 1981 and readers who keep this report as a desk reference should keep this fact in mind.

The fourth limitation relates to the interpretation of the wage data. We did not conduct a survey of employers in the state to obtain this data. Instead, we used information contained in the statewide Job Bank system, operated by the Division of Employment Security (DES). Job Bank information only reflects the characteristics of jobs which employers choose to list in the system and very often these jobs are entry level positions. Therefore, the wage data may be underestimated for many of the occupations.

The final limitation we wish to emphasize is the fact that the information in this report is based on statewide data. Conditions in local areas may vary considerably. In some cases, the local job market situation may be more favorable for a given occupation while in another area, the situation may be worse. Other information and personal knowledge of your area should be used to refine this information.



II. OTHER SOURCES OF INFORMATION



II. OTHER SOURCES OF INFORMATION

There are many resources available to help individuals in job search or career exploration. These may include organizations and publications that you have not considered and which are readily available at little or no cost. Depending on your past job experience and your future career plans some of the resources below may be more appropriate for you than others.

U.S. Department of Labor publications can be found in libraries, guidance departments and in Division of Employment Security (DES) Job Matching Centers throughout Massachusetts. These publications include:

Occupational Outlook Handbook, U.S. Department of Labor; a major source of vocational guidance information for hundreds of occupations. Describes what workers do on the job, salary requirements and future availability of jobs.

Occupational Outlook Quarterly, U.S. Department of Labor; a periodical to help you continually keep abreast of occupational employment developments. Contains articles on emerging occupations, training opportunities and career counseling programs.

Dictionary of Occupational Titles, U.S. Department of Labor; provides up-to-date descriptions for the majority of occupations, and characteristics of most jobs.

Occupational Outlook for College Graduates, U.S. Department of Labor; a publication with information about more than 100 jobs that require education beyond high school.

Employment Outlook for College Graduates in New England, U.S. Department of Labor; current information about job openings furnished by placement directors from a representative sample of New England schools.

While the titles of some of these publications may indicate they are targeted to recent college graduates, these booklets contain valuable job market information for people making job changes and doing career planning.

DES Job Market Research publications - include data on the occupational and industrial outlook in Massachusetts and on unemployment rates in the State's major cities and labor market areas. Included are:

Employment Requirements By Occupation, By Industry, Occupation/Industry Research publication, Massachusetts Division of Employment Security; Forecasts the job outlook in Massachusetts through 1985.

"Put Your Knowledge to Work"--A Job Market Guide for Liberal Arts Graduates explains which occupations look promising for recent college graduates. The guide provides an industrial profile of Massachusetts, a list of some of the State's largest employers as well as an overview of the fields that offer liberal arts graduates the best job opportunities.

Job Development Resource Guides for the Employment and Training System were published by the Policy and Evaluation Unit of the Department of Manpower Development. This publication comes in two volumes. Volume I contains a name and address listing of employers in each of the ten major labor market areas in the state. Volume II contains information on the types of occupations most prevalent in a given industry as well as the industrial distribution of employment for a selected occupation. The two volumes can serve as a valuable supplement to job developers and placement specialists. CETA prime sponsors and Division of Employment Security (DES) local offices have reference copies of this publication.

Classified advertisements are an excellent source of career information. In addition to newspaper classified advertisements, similar help-wanted ads appear in professional journals and trade publications.

Newspaper classified ads will provide you with a broad range of job openings and an overall view of the job market in a particular geographical area. Advertisements in professional and trade journals provide job market information in a particular career field. Depending on the distribution of the journal, these openings may be statewide, regional or nationwide. Job seekers can obtain a great deal of information through the analysis of these ads: salary ranges, current job requirements such as education and experience, industries in which jobs are available, and geographical locations.

Yellow Pages of the telephone directory, along with industrial and Chamber of Commerce directories list names of firms in various industries that may have jobs open. These directories can be extremely helpful for job seekers who want to develop their own jobs as opposed to responding to help wanted advertisements. The telephone company may have yellow pages directories for major cities in Massachusetts and other states, and libraries usually have copies of industrial and Chambers of Commerce directories.

School, college, trade union and professional associations may have jobs listed with them by alumni or members. These sources provide good job leads for people interested in jobs in a particular field or with a particular industry.

DES Job Matching Services are available to all job seekers through a network of more than 50 full-service Job Matching Centers and mini-offices located throughout the State. Job interviewers and vocational counselors will help people to find jobs and will work with individuals who need help in making vocational choices or changes. Computer-assisted job matching is available in a number of offices to provide even more efficient placement services.

MOIS (Massachusetts Occupational Information System)

MOIS is one of the most comprehensive and convenient sources of information for individuals seeking career guidance or information on the availability of training or education in a certain occupational area. It is an information delivery system in that it gathers vast amounts of information from many different sources, enters this information into one of several computerized files, and disseminates the information to hundreds of sites and thousands of users through remote terminals.

MOIS is also a career exploration system through which users can heighten their career awareness, become more knowledgeable about career options and alternatives, and discover how they as individuals relate to them.

This comprehensive career information delivery system includes the following modules:

- o EXPLORE (a structured self-assessment program)
- o Occupational data
- o Educational data
- o Financial aid data
- o Counselor resource file
- o Apprenticeship information
- o On-the-job training opportunities
- o Military occupations

The information and services of MOIS are available to most of the state's cities and towns through local school systems, community colleges, social agencies and some colleges and universities. For more information about MOIS, contact your local high school or community college guidance office.



III. HIGH DEMAND OCCUPATIONS

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- Index of High Demand Occupations by Major Occupational Cluster
- Narrative on High Demand Occupations



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1. Air Conditioning, Heating and Refrigeration Mechanics

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
6,897	440	7.8%	\$5.42 /hr.

NATURE OF WORK

Air conditioning, heating and refrigeration mechanics are skilled workers who install, maintain, and repair temperature controlling systems in homes, offices, factories, and other buildings. Mechanics of this type must be able to work with both the temperature controlling machinery itself and the accompanying system of ducts and pipes that distribute heating or cooling substances around the building. Many mechanics specialize in installation or in maintenance and repair. Others specialize in particular types of machinery, such as air-conditioning and refrigeration units, furnaces, oil burners, or gas burners.

EMPLOYMENT OPPORTUNITIES

In general, opportunities for air-conditioning, heating, and refrigeration mechanics are expected to follow trends in retail trade of fuel and ice as well as residential and commercial construction.

HIRING REQUIREMENTS

Most people who work in this trade acquire their skills by working as helpers for 4 to 5 years with experienced mechanics.

Apprenticeship programs are run by unions and air-conditioning and heating contractors. In addition to the on-the-job training, apprentices are given 144 hours of classroom instruction each year in subjects such as the use and care of tools, safety practices, blueprint reading, and air-conditioning theory.

CLASSIFICATION CODES

DOT: 637.261-014

USOE: 17.0100, 17.0102, 17.0200

CENSUS: 470

2. Assemblers

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
41,414	2,870	8.2%	\$4.35/hr.

NATURE OF WORK

Assemblers put together the parts of manufactured articles. Some assemblers work on assembly lines; they perform one task, such as tightening bolts, as items move past their work station on a conveyor belt. Other assemblers do more detailed work, known as benchwork. In some cases benchworkers perform the tasks that are necessary in order to assemble a piece of the final product, such as steering columns for automobiles; in other cases they make entire products, such as rifles. Still other assemblers, floor assemblers, put together large machinery or heavy equipment, such as school buses, on shop floors.

EMPLOYMENT OPPORTUNITIES

Employment of assemblers is expected to grow faster than the average for all occupations through the 1980's. Job opportunities will, however, probably fluctuate with the ups and downs of the economy.

HIRING REQUIREMENTS

Most new hires for entry level positions are trained on the job. The amount of time required for this can last anywhere from a few days to a few weeks.

In a survey of Massachusetts' employers it was found that many employers preferred that candidates for more advanced positions have at least 1 to 2 years of related work experience.

CLASSIFICATION CODES

DOT: 780.684-062

USOE: 04.0100, 16.0111, 17.0400

CENSUS: 602

3. Bank, Financial Managers

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
15,415	840	6.0%	\$18,050/yr.

NATURE OF WORK

Financial Managers or Officers in banks have responsibility for the supervision of the various departments within the bank. Working within a framework of policy set by the Board of Directors and existing banking laws and regulations, people in this occupation make decisions that are based upon a thorough understanding of both business activities and the operation of the bank departments. This may entail work in the handling of loans, trust management, administrative efficiency or relations with other international and domestic banks.

EMPLOYMENT OPPORTUNITIES

Employment opportunities for financial managers or officers in banks are expected to increase more rapidly than the average for all occupations during the 1980's. It is expected that an expansion in banking services and a growing reliance upon computers, combined with an increased interest in international trade and investment, will stimulate the need for additional financial managers and officers.

HIRING REQUIREMENTS

Ideally, applicants for positions as financial managers or officers should have a bachelor's degree in a social science and a Master of Business Administration (MBA). Candidates offering only a bachelor's degree in business administration or a liberal arts curriculum are, however, often accepted into management trainee positions. Moreover, bank clerks or tellers are occasionally promoted into management trainee positions. In order to meet the specialized needs arising out of work with complex, high technology industries, banks also sometimes hire people with diverse backgrounds, such as chemical engineering, nuclear physics, and forestry.

CLASSIFICATION CODES

DOT: 186.117-038
USOE: 04.0400, 14.0800
CENSUS: 202

4. Bookkeepers

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
50,060	2,950	6.1%	\$9,485/yr.

NATURE OF WORK

Bookkeepers maintain a systematic and updated system of accounts designed to keep an accurate flow of information available for decision makers within a business. Part of this process involves maintaining records in appropriate accounting journals and preparing financial statements among other clerical duties. The diversity of tasks required of a bookkeeper depend to a large extent on the size of the company.

Often, bookkeepers are also required to operate machinery such as adding machines and billing machines. In some places of employment bookkeepers are expected to have a working knowledge of computers.

EMPLOYMENT OPPORTUNITIES

Employment opportunities in the future are expected to grow a little faster than average. But the nature of the job could change somewhat due to the increasing tendency to computerize various bookkeeping functions.

HIRING REQUIREMENTS

Individuals with a background in business math, bookkeeping and principles of accounting meet the requirements for most bookkeeping jobs. An increasing importance is being placed on hiring individuals with a formal business education who also possess a working knowledge of computers.

In some states bookkeepers working in certain fields, such as taxes, are required by law to be certified.

CLASSIFICATION CODES

DOT: 210.382-014, 210.382-018

USOE: 14.0102, 14.0303

CENSUS: 305

5. Buyers, Wholesale and Retail

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
6,236	520	10.1%	\$15,520/yr.

NATURE OF WORK

Buyers purchase merchandise for their firms to resell. Bearing their store's or firm's profit margins in mind, buyers must select merchandise that will sell quickly at prices well above the original cost. They must familiarize themselves with the manufacturers and distributors of merchandise, follow trends in consumer preferences, assist in sales promotions, and make certain that merchandise is stocked in a manner that will result in the greatest possible profits. In many cases buyers must travel extensively to place orders with manufacturers.

EMPLOYMENT OPPORTUNITIES

Openings in this occupation are expected to grow faster than average in the 1980's but competition for these openings will be keen. More and more firms are converting to computerized systems to maintain inventories and order standard merchandise items and this will change the nature of job openings somewhat. In general, prospects will be best for individuals who thrive in a competitive, fast-paced and demanding job environment.

HIRING REQUIREMENTS

As a rule, although specific training in marketing or purchasing is not necessary, employers prefer to hire people who have a college degree for entry level positions. Successful candidates are often then placed in a training program that allows them to gradually progress from an assistant buyer's position to the level of buyer. The length of time involved depends upon many factors, including the individual's ability, the firm's need for management personnel, and the rate at which the company is growing.

CLASSIFICATION CODES

DOT: 162.157-018

USOE: 01.0700, 04.0600, 04.0800

CENSUS: 205

6. Carpenters and Apprentices

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
25,625	1,380	5.9%	\$5.24/hr.

NATURE OF WORK

Carpenters work with wood and other building materials, such as plastic and fiberglass, to do construction and repair. In the construction industry carpentry is divided into two categories; "rough" and "finish." Using blueprints or instructions from supervisors, people who do "rough" carpentry build house frames, erect docks and scaffolding, and build other structural forms. People who do "finish" carpentry complete the final stages of a piece of work in addition to concerning themselves with its structural integrity. Typically, finish carpentry includes building stairs, installing doors, cabinets, wood paneling and molding, and putting up acoustical tiles. Some carpenters specialize in particular types of work. Carpenters not employed in the construction industry usually do installation and maintenance work.

EMPLOYMENT OPPORTUNITIES

The demand for carpenters fluctuates greatly from year to year, because the construction industry is very sensitive to the economy's ups and downs. National projections indicate that opportunities in the 1980's will be best during the first half of the decade. Carpenters with all-round training will be in greater demand than carpenters who are skilled only in relatively simple, routine types of carpentry.

HIRING REQUIREMENTS

Although many carpenters have acquired their skills through informal means, such as working as a carpenter's helper, ideally people who plan to work as carpenters should complete a formal apprenticeship program. Apprenticeship programs, administered by local contractors' associations or by joint committees of contractors and unions, usually consist of 4 years of on-the-job training and a minimum of 144 hours of related classroom instruction each year. Generally, applicants for these programs must be at least 17 years old. Also, they may be required to meet local requirements for carpenters.

CLASSIFICATION CODES

DOT: 860.381-022, 860.381-026

USOE: 17.1001, 17.1095, 17.3601

CENSUS: 415,416

7. Child Care Workers

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
5,740	820	21.0%	\$4.20/hr.

NATURE OF WORK

Child care workers work to improve the physical and emotional well-being of children including advising parents on the subject of child care. They may provide child care services and home-making services during a parent's illness. Some workers provide counselling for maladjusted children or may remove (with proper authorization) mistreated children and place them in foster homes. Child care workers may take (within the constraints of the law) almost any action deemed necessary to preserve the well being of a child.

EMPLOYMENT OPPORTUNITIES

This occupation is expected to grow at a much faster than average rate during the 1980's.

HIRING REQUIREMENTS

Educational requirements needed for employment in this field range from a high school diploma to a master's degree, depending on the nature of the particular job.

In recent years the educational background most commonly found has been that of a bachelor's degree.

CLASSIFICATION CODES

DOT: 359.677-010, 355.674-010, 359.677-018

USOE: 09.0201

CENSUS: 942

8. Clinical Lab Technicians

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
7,551	470	7.2%	\$11,064 /yr.

NATURE OF WORK

Clinical lab technicians conduct laboratory tests under the direction of pathologists and other physicians or scientists to aid in the detection, diagnosis, and treatment of many diseases. They analyze blood, tissues, and body fluids by using precision instruments, such as microscopes and automatic analyzers.

There is a hierarchy among clinical lab technician positions. Some people work as medical technologists, others as medical technicians, and still others as assistants.

EMPLOYMENT OPPORTUNITIES

Massachusetts projections indicate that employment opportunities for clinical lab technicians will be favorable during the 1980's.

In a recent survey of Massachusetts employers' needs for medical technologists it was found that demand is greatest for job applicants who have both thorough training and previous work experience. Too often, candidates had specialized in a particular lab function and, thus, were not able to handle the diverse tasks that firms viewed as desirable.

HIRING REQUIREMENTS

Hiring requirements vary according to the level of the position.

At a minimum, medical technologists must have completed a specialized program in medical technology (usually 12 months in length).

Medical laboratory technicians must have acquired training by completing 2 years of related work at a junior or 4-year college, university, or vocational/technical school.

Laboratory assistants are usually trained on the job.

CLASSIFICATION CODES

DOT: 078.381-014
USOE: 07.0202, 07.0203
CENSUS: 080

9. Computer Programmers

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
10,196	370	4.1%	\$14,820/yr.

NATURE OF WORK

Computer programmers write detailed instructions (programs) that list in a logical order the steps that a computer must follow to organize data, solve a problem, or do some other task.

Computer programmers begin their work by analyzing the problem to be solved, such as carrying out a payroll accounting procedure or billing customers. They translate the problem into instructions for the computer by writing a program in a programming language, such as COBOL. They test their program to make sure that it is working properly and, finally, computer programmers prepare an instruction sheet for the computer operator who will run the program.

EMPLOYMENT OPPORTUNITIES

Employment opportunities for programmers are expected to grow faster than the average through the 1980's. Opportunities will probably be especially good in firms providing accounting and business management services and in organizations involved in research and development.

Prospects will be good for college graduates who majored in computer science or a related field and for graduates of 2-year programs in data processing. Individuals with education and previous job experience will have the best employment prospects.

HIRING REQUIREMENTS

Employers almost always prefer to hire applicants who have a college degree in addition to or including training in computer programming. Computer programming courses are offered by public and private vocational schools, community and junior colleges, universities, and correspondence schools.

Prior work experience is frequently essential, especially in small to medium size firms (10 to 250 employees). Larger firms are more likely to hire individuals with little or no experience.

CLASSIFICATION CODES

DOT: 020.162-014

USOE: 14.0203, 16.0117

CENSUS: 003

10. Computer Service Technologists

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
2.407	180	11.1%	\$13,200/yr.

NATURE OF WORK

Computer service technologists/technicians are responsible for keeping computer equipment in good working order.

On a routine basis, they adjust, oil, and clean mechanical and electromechanical parts. They also check for loose connections and defective components or circuits. In addition, when the computer malfunctions, computer service technologists must determine the source of the problem and make repairs. Computer technicians also often help install and test new equipment.

EMPLOYMENT OPPORTUNITIES

Employment of computer technicians is expected to grow much faster than the average for all occupations through the 1980's. Because the computer industry is rapidly expanding, employment in this occupation is not likely to be as severely affected by downturns in business activity as other occupations.

HIRING REQUIREMENTS

Employers usually require that applicants for technician trainee jobs have 1 to 2 years training in basic electronics or electrical engineering. Training of this type can be obtained at public and private vocational schools, colleges, and junior colleges.

Once an applicant is hired as a trainee, she or he is usually given 3 to 6 months of classroom instruction and 6 months to two years of on-the-job training.

Experienced technicians often take advanced training courses to keep up with changes in technology.

CLASSIFICATION CODES

DOT: 828.281-010

USOE: 16.0108, 17.0600

CENSUS: 475

11. Computer Systems Analysts

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
6,083	280	5.4%	\$19,500/yr.

NATURE OF WORK

Systems analysts plan efficient methods for processing data to solve problems ranging from monitoring nuclear fission in a powerplant to forecasting sales for an appliance manufacturing firm. Using techniques such as cost accounting, sampling, and mathematical model building, systems analysts analyze the problem they have been asked to solve and devise a system. They determine what data must be collected, the equipment needed for computation, and the steps to be followed in processing the information. Then, they translate the designed system into a series of logically ordered tasks that can be handled by a computer.

Systems analysts usually specialize in either business or scientific and engineering applications.

EMPLOYMENT OPPORTUNITIES

Employment opportunities for systems analysts are expected to be good throughout the 1980's, particularly in areas where computer-based approaches to problem solving are just beginning to be explored. For example, sophisticated accounting systems, telecommunications networks, and scientific research will be providing many new openings in the years ahead.

HIRING REQUIREMENTS

There is no single course of training that is required in order to be hired as a systems analyst. As a rule, however, employers prefer to hire applicants who have a college degree, training in programming languages and work experience in computer programming: Some of the more complex jobs require candidates with graduate degrees.

CLASSIFICATION CODES

DOT: 012.167-066

USOE: 14.0203, 14.0204, 14.0800

CENSUS: 004

12. Cooks

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
26,770	1,760	7.3%	\$4.64/hr.

NATURE OF WORK

Cooks and chefs prepare food for restaurants, often contributing to the fame or reputation of the restaurant by creating new dishes and improving upon familiar ones.

A cook's or chef's duties vary considerably, depending upon the size and type of restaurant in which she or he works. In a small restaurant or fast food restaurant the cook may prepare all of the food with the help of a short order cook and one or two kitchen helpers. Larger restaurants usually have a staff of several cooks, assistant or apprentice cooks, and kitchen helpers. Cooks and chefs in these kitchens frequently specialize in particular types of food preparation. Head chefs or cooks coordinate the work of the kitchen staff, directing the preparation of some kinds of food, deciding upon the size of the servings, and in some cases planning menus and buying supplies.

EMPLOYMENT OPPORTUNITIES

Employment of cooks and chefs is expected to increase faster than the average for all occupations through the 1980's. Population growth and an increase in personal incomes will increase the demand for restaurants. Also, increases in the number of working women with families will lead to a greater demand for the convenience of being able to dine out.

HIRING REQUIREMENTS

Employers usually require little or no experience of applicants for assistant or fry cook positions. People who are placed in these positions usually receive training on the job. In contrast, many years of training and experience are necessary in order to be hired as an executive chef or cook in a fine restaurant.

Cooks who wish to obtain skill training may do so in a variety of ways. Programs are offered by high school and post-high school vocational programs. Apprenticeship programs, lasting up to three years in length, are offered by professional associations and trade unions.

CLASSIFICATION CODES

DOT: 315.361-010
USOE: 09.0203, 17.2900
CENSUS: 912

13. Dental Assistants

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
5,103	390	9.2%	\$10,825./yr.

NATURE OF WORK

Dental assistants work with dentists to perform a variety of duties that do not require the professional knowledge or skills that are required of dentists and dental hygienists. Dental assistants prepare patients for treatment, hand the proper instruments and materials to the dentist, keep the patient's mouth clear by using suction or other devices, expose radiographs, process dental X-ray film, and provide other forms of assistance in the treatment of patients.

Some dental assistants also perform administrative functions. They manage the office, arrange and confirm appointments, receive payments, keep treatment records, send bills, receive patients, and order supplies.

EMPLOYMENT OPPORTUNITIES

Largely because dental students are now being taught to use assistants in their practice, employment opportunities for dental assistants are expected to be excellent through the 1980's. Graduates of academic programs in dental assisting will fare particularly well in competition for openings. Opportunities for part-time employment as well as for full-time employment will be very good.

HIRING REQUIREMENTS

Although many dental assistants are trained on the job, ideally, candidates for dental assistant positions should have completed a formal post high school program in dental assisting. Junior and community colleges, vocational and technical schools offer programs that vary in length from four months to two years. Training can also be obtained through a correspondence course accredited by the American Dental Association.

Dental assistants may become Certified Dental Assistants by completing an accredited training program and passing an examination. Certification is not generally required for employment.

CLASSIFICATION CODES

DOT: 079.371-010

USOE: 07.0101

CENSUS: 921

14. Dental Hygienists

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
2,366	280	18.4%	\$11,064/yr.

NATURE OF WORK

Dental hygienists work under the supervision of dentists to perform the preventive and therapeutic services that are necessary for the development and maintenance of good oral health. State laws governing work that dental hygienists are licensed to perform vary considerably. Typically, however, the range of duties undertaken by the dental hygienist include: removing deposits and stains from patients' teeth; providing instructions for patient self-care and nutritional counseling; applying topical fluoride; taking medical and dental histories; exposing and developing X-ray films; and making impressions of teeth.

EMPLOYMENT OPPORTUNITIES

It is expected that there will be a strong demand for dental hygienists throughout the 1980's. Although enrollments in schools of dental hygiene are rising, the expanding population, a growing awareness of the importance of regular dental care, an increased participation in dental prepayment plans, and more group practice among dentists are creating a demand for dental hygienists that could possibly exceed the future supply.

HIRING REQUIREMENTS

Dental hygienists must be licensed. In order to qualify for a license, dental hygienists must first receive a bachelor's degree or an associate's degree from an accredited dental hygiene school. This provides the candidate with a thorough grounding in the principles of basic sciences, dental sciences, and clinical sciences, as well as in liberal arts. Then, the candidate must typically pass both a written examination given by the National Board of Dental Examiners and a clinical examination.

CLASSIFICATION CODES

DOT: 078.361-010

USOE: 07.0102

CENSUS: 081

15. Drafters

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
14,510	600	5.0%	\$11,400/yr.

NATURE OF WORK

Drafters prepare detailed drawings based on rough sketches, specifications, and calculations made by scientists, engineers, architects, and designers. They also calculate the strength, quality, quantity, and cost of materials. Final drawings contain a detailed view of the object from all sides as well as specifications for materials to be used, procedures followed and other information to carry out the job. Drafters usually specialize in a particular field of work, such as mechanical, electrical, aeronautical, structural, or architectural drafting.

EMPLOYMENT OPPORTUNITIES

Employment of drafters is expected to increase about as fast as the average for all occupations through the 1980's because of industrial growth and the increasingly complex design problems of products and processes. The expanding use of electronic drafting equipment and computers, however, will gradually reduce the need for less skilled drafters.

HIRING REQUIREMENTS

Hiring requirements vary according to the work or level of responsibility. Well-qualified high school graduates who have studied drafting may qualify for an entry level position such as a tracer. An associate's (2-year) degree in drafting from technical institutes, junior and community colleges or extension divisions of universities is usually required for other positions.

CLASSIFICATION CODES

DOT: 007.261-022, 005.281-014, 003.281.-010

USOE: 17.1300, 16.0106

CENSUS: 152

16. Electrical Engineers

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
18,437	840	5.3%	\$19,628/yr.

NATURE OF WORK

Electrical engineers work in research, development, design, manufacturing, administration and management, technical sales, and teaching. It is their job to design, develop, test, and supervise the manufacture of electrical equipment (such as power generating and transmission equipment, machinery controls, lighting and wiring in buildings, automobiles, and aircraft) and electronic equipment (such as radar, computers, communications equipment, televisions, and stereos.)

Electrical engineers usually specialize in a major area. Some also design and operate facilities for generating and distributing electric power.

EMPLOYMENT OPPORTUNITIES

Employment of electrical engineers is expected to increase about as fast as the average for all occupations through the 1980's.

HIRING REQUIREMENTS

Hiring requirements vary according to the level of the position. A bachelor's degree in engineering or the completion of a 4-year program in engineering is usually sufficient for entry level positions in practical design or production work. People who wish to obtain teaching or research positions usually must have completed additional graduate training. Massachusetts employers are particularly interested in experienced engineers.

CLASSIFICATION CODES

DOT: 003.061-010

USOE: None relevant

CENSUS: 012

17. Electricians and Apprentices

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
14,501	640	4.8%	\$6.42/hr.

NATURE OF WORK

Electricians assemble, install, wire, and maintain electrical systems, such as heating, lighting, air-conditioning, and refrigeration systems. They also install electrical machinery, electronic equipment and controls, and signal and communications systems. It is their responsibility not only to work from blueprints or specifications to install electrical systems, but also to check their work to test the circuits for proper connections.

Electricians work in many different settings and focus on particular types of work. For example, some work in construction, others concentrate on maintenance of systems that already have been installed, and still others work only on equipment such as the generators and motors of ships.

EMPLOYMENT OPPORTUNITIES

Employment opportunities for electricians are expected to be good throughout the 1980's. The demand for some types of positions, such as those in the construction industry, may fluctuate with the ups and downs of the economy. However, it is possible to shift from employment in one sector to employment in another in response to these changes.

When construction activity is depressed, competition for entry level positions may be keen.

HIRING REQUIREMENTS

Ideally, applicants for electrician's jobs should have completed a 4-year apprenticeship program, sponsored by a local union-management committee or company management committee.

The trade can also be learned informally by working for several years as an electrician's helper, but this is not ideal.

Many cities require that electricians be licensed.

CLASSIFICATION CODES

DOT: 824.261-010, 824.261-014

USOE: 17.0400, 17.1002, 17.1400

CENSUS: 430, 431

18. Electronic Technicians

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
13,832	680	6.0%	13,520/yr.

NATURE OF WORK

Electronic technicians develop, manufacture, and service electronic equipment and systems. Some people who work in this field handle many different types of equipment, applying their skills over a range that can extend from radio, radar, sonar and television to industrial and medical measuring or control devices, navigational equipment and computers. Other people specialize, focusing on one particular area, such as automatic control devices or electronic amplifiers.

Typically, electronic technicians draw upon knowledge of electrical or electronic theory, physical science, and mathematics in order to perform the duties of their job. They may use sophisticated measuring and diagnostic devices to test, adjust, and repair equipment. And, in many cases, they must acquire a basic understanding of the field in which the electronic device they are working on is to be used.

EMPLOYMENT OPPORTUNITIES

According to a recent survey, Massachusetts employers are finding a greater need for experienced electronic technicians than for people who are seeking entry level positions. The high technology sector is expanding rapidly, however, in Massachusetts, as well as in the nation as a whole. As a result, there is likely to be an increased demand for electronic technicians at all skill levels.

HIRING REQUIREMENTS

The specialized training that is necessary for employment as an electronic technician can be acquired in many different ways. Technical institutes, junior and community colleges, area vocational-technical schools, extension divisions of colleges and universities, and vocational-technical high schools all provide training in skills that are essential for employment as an electronic technician. Alternatively, workers may sometimes learn the requisite skills through on-the-job training, apprenticeship programs, or correspondence schools. People may also qualify for some positions by completing undergraduate work in engineering, science or mathematics. The particular training that is required for employment depends upon the specific type of work for which the employee is being hired.

CLASSIFICATION CODES

DOT: 003.161-014

USOE: 16.0107, 16.0108, 16.0112

CENSUS: 153

19. Excavating and Grading Machine Operators

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
4,340	220	5.9%	\$7.00/hr.

NATURE OF WORK

Machine operators are referred to generally as operating engineers. These operating engineers who work the controls of excavating and grading machines are considered to be operators of medium-sized equipment.

In operating medium sized equipment, engineers may work on an assigned task independently. In other more difficult tasks the coordinated efforts of other persons may be required.

EMPLOYMENT OPPORTUNITIES

Opportunities for operating engineers of all sizes of machinery is projected to increase faster than the state average for all occupations through the 1980's. Though an overall increase is projected, this occupation will continue to be sensitive to seasonal patterns with the largest number of opportunities available in the spring and summer seasons.

HIRING REQUIREMENTS

No stringent requirements are standard. Some requirements may exist if an individual plans to enroll in an apprenticeship training program, though these programs are not common. Most individuals become operators through on-the-job experience beginning their training on light equipment and advancing to heavier equipment.

Physical qualities considered necessary for employment as an operator consist of being alert, having a good sense of balance, having good eye-hand-foot coordination and being physically strong.

CLASSIFICATION CODES

DOT: 850.683-010
USOE: 17.1003, 17.1099
CENSUS: 436

20. Expeditors, Production Controllers

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
8,750	570	7.7%	\$9,665/yr.

NATURE OF WORK

A production controller is concerned with the raw materials that make up the finished product. They are also concerned with insuring that products meet quality standards and specifications.

EMPLOYMENT OPPORTUNITIES

Opportunities in this field are projected to increase faster than average for all occupations through the 1980's. The future should also show an increased demand for production controllers who possess the ability to oversee more highly sophisticated products.

HIRING REQUIREMENTS

For entry level positions, no specific degree or diploma is usually required. Generally a shop will choose people based upon shop administered tests. Training will then be acquired through on-the-job experience. The training duration will be a function of the difficulty of the job the individual is being trained for.

Those attributes regarded as desirable in selecting individuals for this type of work are knowledge of shop math and blue print reading. Also, an ability to cooperate with fellow workers is quite necessary since team efforts are often needed.

CLASSIFICATION CODES

DOT: 222.367-018, 221.382-018

USOE: 04.1900, 14.0300, 14.0305, 14.0400, 14.0500

CENSUS: 323

21. Fork Lift Operatives

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
5,989	230	4.2%	\$4.43/hr.

NATURE OF WORK

Fork lift operatives drive power trucks that are used to move heavy materials from one place to another within a plant. Typically, the truck has a hydraulic lifting mechanism and forks that can be used to carry a load on a wooden skid or pallet. These power trucks are relatively easy to operate; nevertheless their operation requires both skill and care. In order to make sure that the materials are not damaged during transport, drivers must be able to judge distances well and to correctly assess both the lifting capacity of the truck and the kinds of jobs that it can do.

Some fork lift operatives are required to keep records of the materials they move and to do some manual loading and unloading. They may also be responsible for the care and upkeep of their truck.

EMPLOYMENT OPPORTUNITIES

Employment of fork lift operatives is expected to increase considerably during the 1980's. The number of jobs available each year will vary though, because the occupation is sensitive to changes in the demand for manufactured goods.

HIRING REQUIREMENTS

Employers usually seek applicants who are in good physical health, who have average manual dexterity, strength, and stamina, and who have both good eyesight and depth perception.

The instruction that is necessary to become a fork lift operative is received through on-the-job training. Many companies offer training of this type. It usually takes a few days to learn how to operate the truck properly and several weeks to learn the layout of the plant and proper methods for handling the materials.

CLASSIFICATION CODES

DOT: 921.683-050

USOE: None relevant

CENSUS: 706

22. Health Administrators

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
6,474	480	8.2%	\$11,275/yr.

NATURE OF WORK

Working under the supervision of a board of directors, health services administrators manage the operation of medical and health care organizations. Typically, health services administrators review budget proposals, make personnel decisions, and negotiate for the expansion of facilities. Those who manage hospitals or nursing homes oversee nursing, food services and in-service training programs. Moreover, many health services administrators help carry out fundraising drives and promote public participation in health programs. If the organization is small, the health services administrator performs these tasks personally; in large organizations, he or she will direct a staff of assistant administrators.

EMPLOYMENT OPPORTUNITIES

Employment of health services administrators is expected to grow somewhat faster than the average for all occupations through the 1980's. Because enrollments in graduate programs of health administration are also rapidly increasing, however, candidates who lack a graduate education may have difficulty competing for the higher level positions.

HIRING REQUIREMENTS

The skills and education required of entry level applicants vary according to the position's level of responsibility and the size of the organization. Typically, people offering bachelor's degrees or associate's degrees will be hired as unit directors, assistant department heads, or assistant administrators. People with master's degrees in related fields, such as MBA graduates are sometimes hired by public health departments as program analysts. Ph.D's are hired for positions in teaching and research or for administrative jobs in the larger, more prestigious health organizations.

CLASSIFICATION CODES

DOT: 187.117-010

USOE: None relevant

CENSUS: 212

23. Health Aides

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
8,972	820	11.6%	\$4.15/hr.

NATURE OF WORK

Nurses aides are perhaps the most well-known type of aides within the health services occupations. There are, however, many other types of aides, such as pharmacy helpers, physical and occupational therapy assistants, laboratory assistants, ambulance attendants and drivers, morgue attendants, autopsy assistants, and community health aides.

People in these occupations work under the direction of trained medical practitioners, performing various duties such as mixing pharmaceutical preparations, labeling and storing supplies, assisting during the physical examination of patients, keeping patient's records, preparing infant formulas and assisting in therapy treatment.

EMPLOYMENT OPPORTUNITIES

The employment outlook for health aides varies considerably, depending upon the particular type of position. For example, the Bureau of Labor Statistics predicts that employment opportunities for occupational therapy assistants will be good through the 1980's for applicants who are graduates of approved training programs. The demand for physical therapy assistants is expected to increase at a slower rate.

HIRING REQUIREMENTS

Hiring requirements also vary considerably, depending upon the particular type of position.

Completion of a training program, such as a 1 to 2 year program in occupational therapy, is often necessary.

CLASSIFICATION CODES

DOT: 355.377-014, 355.367-010, 355.674-014
USOE: 07.0906, 07.0907
CENSUS: 922

24. Heavy Equipment Mechanics

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
6,180	760	4.0%	\$5.00/hr.

NATURE OF WORK

Heavy equipment mechanics perform preventive and repair work upon plant or factory machinery. It is the duty of this person to keep maintenance records and perform such activities as oiling, cleaning and replacing worn parts before the machinery itself becomes damaged.

If on any occasion the machinery should malfunction, it is within the duties of the mechanic to complete needed repairs.

EMPLOYMENT OPPORTUNITIES

Employment in this occupation is projected to increase faster than the average for all occupations through the 1980's. Two reasons for this projection are a projected expansion in the use of industrial machinery and the increased use of sophisticated machinery which will require more elaborate and time consuming maintenance.

HIRING REQUIREMENTS

Graduation from a vocationally oriented program is preferred but not always required. Some individuals become mechanics upon completion of an apprenticeship program which combines classroom and practical experience. Most often individuals become mechanics by acquiring informal on-the-job training.

Physical qualities which are stressed in determining those best suited for the trade are mechanical aptitude and manual dexterity.

CLASSIFICATION CODES

DOT: 620.261-022

USOE: 01.0300, 17.1003, 17.1099, 17.1200, 17.1400, 17.3300, 17.3601

CENSUS: 481

25. Industrial Engineers

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
9,839	450	5.1%	\$19,501/yr.

NATURE OF WORK

Industrial engineers help design methods that will facilitate the organizational operation of businesses. It is their job to locate sites where plants will be able to benefit from the best possible combinations of transportation systems, tax systems, and sources of raw materials, to develop organizational and production plans that will result in a cost efficient distribution of quality goods, and to develop employment practices that will be beneficial to the overall functioning of the firm.

In order to accomplish these goals, industrial engineers rely heavily upon the principles of systems analysis. They design data processing systems and apply mathematical concepts to planning problems to develop solutions that can be evaluated in terms of cost efficiency and company goals. Because this work requires participation in the management decision-making process, industrial engineers often move into management positions.

EMPLOYMENT OPPORTUNITIES

Industrial engineers may be employed in a wide variety of settings. Insurance companies, banks, construction and mining firms, public utilities, hospitals, retail organizations, government agencies, colleges, universities, and a host of other large businesses employ industrial engineers. In Massachusetts, employment opportunities are particularly good for candidates who possess both training and experience in industrial engineering.

HIRING REQUIREMENTS

Typically, firms require two to four years of post-secondary education in the field of engineering. It is only through such training that the basic principles of engineering may be acquired. Employees who have completed additional years of education in engineering and employees who have acquired two to five years of related work experience in addition to the requisite education are in particular demand.

CLASSIFICATION CODES

DOT: 012.167-030

USOE: None relevant

CENSUS: 013

26. Insurance Adjusters, Examiners

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
6,180	250	4.3%	\$10,375/yr.

NATURE OF WORK

Insurance adjusters and examiners make sure that insurance settlements reflect the claimant's actual losses.

In the property-liability (casualty) insurance industry claims adjusters typically go to the site of a fire or accident or burglary, collect reports, physical evidence, and testimony, determine whether the claimant's policy covers the damage, and negotiate settlements. A claims examiner then receives these findings and authorizes payment.

In life insurance companies a claims examiner conducts investigations as well as authorizing payments.

EMPLOYMENT OPPORTUNITIES

Employment of claims adjusters and examiners is expected to grow about as fast as the average for all occupations through the 1980's. Prospects will, however, probably be better for claims representatives who specialize in highly complex types of business insurance than for those who seek employment in the more traditional areas such as auto insurance or in life insurance.

HIRING REQUIREMENTS

Ideally, applicants for entry level positions should have a college degree. In most cases firms provide on-the-job training consisting of a formal course of instruction and the assignment of progressively more demanding work. Most states also require that adjusters be licensed.

CLASSIFICATION CODES

DOT: 241.217-010A, 241.267-018-E

USOE: 04.1300, 14.0500

CENSUS: 326

27. Lathe Machine Operatives

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
3,408	190	6.3%	\$5.95/hr.

NATURE OF WORK

Lathe machine operatives run turning machines that rotate and shape wood or metal. The duties of the lathe operator vary considerably, but typically include setting up and/or operating lathes and turning machines. Some people operate manual lathes, others operate numerical control lathes, and still others operate computer control lathes.

EMPLOYMENT OPPORTUNITIES

Surveys of employers that have recently been conducted in Massachusetts show that there is great demand for people in this occupation. Experienced workers are in particularly high demand.

HIRING REQUIREMENTS

Employers usually require that candidates for entry level positions have a high school diploma and an ability both to perform basic mathematical computations and to read blueprints. Manual dexterity is also an important qualification.

Candidates for positions requiring experienced lathe operators must usually have at least 1 to 2 years of related work experience.

CLASSIFICATION CODES

DOT: 604.280-010

USOE: 17.2100, 17.2303, 17.3601

CENSUS: 652

28. Legal Secretaries

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
5,146	460	11.0%	\$11,830/yr.

NATURE OF WORK

Legal secretaries are secretaries who have specialized training in legal matters. In addition to performing routine secretarial duties, such as scheduling appointments, dealing with callers, typing and taking shorthand, legal secretaries prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. In some cases they also review law journals and assist in other ways with legal research.

EMPLOYMENT OPPORTUNITIES

A survey of law firms that was conducted in Massachusetts during the summer of 1980 indicated that employers were not experiencing great difficulty filling entry level positions. The number of openings in any given week was not high and more often than not an applicant could be chosen within one to four weeks. Nevertheless, most firms indicated that they had a definite need for well-qualified and experienced secretaries. Thus, applicants who offer the specialized training that work as a legal secretary requires should fare well in competition for these positions.

HIRING REQUIREMENTS

Ideally, applicants for positions as legal secretaries should have completed a one to two year secretarial program in addition to having received a high school diploma. In the absence of a sufficient supply of candidates offering these qualifications, however, firms are hiring secretaries who lack specialized skills and providing on-the-job training.

CLASSIFICATION CODES

DOT: 201.362-010

USOE: 14.0700, 14.0702

CENSUS: 370

29. Machinists

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
17,357	760	4.6%	\$5.39/hr.

NATURE OF WORK

The scope of work undertaken by machinists varies considerably from industry to industry and from one employment site to another. In some cases machinists are responsible only for the care and operation of specific types of machines, such as machines that produce aircraft propellers or machines that grind chemicals for drug preparation; while in other cases people employed in this occupation assume the role of an "all-round" machinist, applying their skills to many or all types of machines that are used by the industry. In either case, it is the responsibility of the machinist to undertake all steps that are necessary to produce intricate metal parts. They must read blueprints, know how to set up and operate most of the machine tools that are used to produce the piece in accordance with its specifications, understand the working properties of a variety of metals, check for precision accuracy and, in some instances, maintain the machines themselves.

EMPLOYMENT OPPORTUNITIES

There is currently a steady demand for machinists in Massachusetts. This demand is expected to increase in the 1980's due to the relatively large number of machinists who are at or near retirement age. According to an employer survey conducted during the summer of 1980, employers, particularly those located in the Worcester area, were finding moderate difficulty hiring machinists for entry level positions and greater difficulty hiring experienced machinists. Projections by the Division of Employment Security confirm these findings.

HIRING REQUIREMENTS

Ideally, candidates for machinist positions should have completed a four-year formal apprenticeship program, consisting of approximately 8,000 hours of shop training and about 570 hours of related classroom instruction. However, some companies provide training programs for single-purpose machines that require less than four years to complete. After being hired employees may also be required to take additional courses in mathematics and electronics in order to learn about new metalworking technologies.

CLASSIFICATION CODES

DOT: 600.280-022
USOE: 17.0400, 17.2200, 17.2302, 17.2303
CENSUS: 461, 462

30. Managers, Superintendents of Buildings

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
2,868	300	12.1%	\$11,275/yr.

NATURE OF WORK

Superintendents and managers of buildings take responsibility for the maintenance of buildings or sections of buildings. It is their job to make sure that routine maintenance tasks, such as fixing leaky faucets, emptying trash, minor painting and carpentry, replenishing bathroom supplies, and mowing lawns are performed in a timely manner. They also see to it that heating and air-conditioning equipment work properly.

In small buildings, the manager or superintendent of the building may undertake all of these duties. In larger buildings, she or he may supervise a staff of custodians to make sure that this work is done. Most people in this occupation work exclusively for a particular building or a group of buildings; some work for firms supplying building maintenance services on a contract basis to many employers.

EMPLOYMENT OPPORTUNITIES

Employment opportunities in this occupation are expected to be good through the 1980's. In addition to the need for employees to replace workers who die, retire, or leave the occupation, it is expected that there will be a demand for workers to maintain the new office buildings, hospitals, apartments and other buildings that will be constructed.

HIRING REQUIREMENTS

Although high school shop courses may provide people in this occupation with useful knowledge of basic plumbing and carpentry, no special training is necessary for entry level positions. Typically, new employees are trained on the job. Experience is an asset when competing for jobs that require the supervision of other staff members or extensive management duties.

CLASSIFICATION CODES

DOT: 187.167-190

USOE: 04.1700

CENSUS: 216

31. Mechanical Engineers

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
8,972	390	4.8%	\$21,143/yr.

NATURE OF WORK

Mechanical engineers apply theories of science and mathematics to design and develop power producing machines, such as internal combustion engines, steam and gas turbines, and jet and rocket engines, and power-using machines, such as refrigeration and air-conditioning equipment, elevators, machine tools, printing presses, and steel rolling mills.

Many areas of specialization have developed within the field of mechanical engineering. For example, mechanical engineers may specialize in motor vehicles, marine equipment, energy conversion systems, instrumentation, or machines for specific industries, such as petroleum, rubber and plastics, or construction. Depending upon the setting within which they work and the area in which they specialize, mechanical engineers may undertake any of a variety of tasks. In some cases they may be involved solely in machine research, testing, and design. In other cases, the job may entail work in maintenance, technical sales, production operations, teaching, or consulting.

EMPLOYMENT OPPORTUNITIES

According to the results of a recent Job Openings Survey, conducted by the Division of Employment Security, the vacancy rate for mechanical engineers in Massachusetts is higher than that of any other type of engineer. National projections indicate that the rate of increase in employment opportunities for mechanical engineers will be comparable to the increase that can be expected for all other occupations through the 1980's.

HIRING REQUIREMENTS

Typically, someone who is hired for an entry level position as a mechanical engineer will have either received a bachelor's degree in engineering or completed a 2-4 year program in engineering technology. In order to qualify for promotions and to keep up with new technologies, many mechanical engineers also obtain a master's degree.

CLASSIFICATION CODES

DOT: 007.061-014

USOE: None relevant

CENSUS: 014

32. Medical Secretaries

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
8,056	740	12.3%	\$11,830/yr.

NATURE OF WORK

Medical secretaries possess specialized knowledge of the medical field in addition to knowledge of basic secretarial skills. Typically, people who work as medical secretaries type medical forms and insurance claims, answer telephones, schedule appointments, register patients, and transcribe both dictation and shorthand. This requires that they acquire a basic knowledge of medical terminology, hospital procedures, and laboratory procedures.

EMPLOYMENT OPPORTUNITIES

Employment opportunities for secretaries who possess the requisite knowledge of the medical field are good. Because there is a shortage of secretaries who can offer this type of specialized training, employers in Massachusetts often hire secretaries who possess only basic secretarial skills to fill positions that demand highly-skilled medical secretaries. Secretaries who are prepared to assume all of the responsibilities of a medical secretary at the time they are hired can expect to fare well in competition for such positions.

HIRING REQUIREMENTS

In the absence of an adequate supply of trained medical secretaries, employers often hire secretaries who possess only the secretarial training that can normally be obtained through a high school education or from a basic secretarial training program. In these instances, specialized on-the-job training is frequently provided. Ideally, medical secretaries should obtain the required medical expertise through prior work experience or from programs offered at colleges or private business schools before seeking employment as medical secretaries.

CLASSIFICATION CODES

DOT: 201.362-014

USOE: 14.0700, 14.0702

CENSUS: 371

33. Opticians and Lens Grinders

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
2,493	200	10.2%	\$4.37/hr.

NATURE OF WORK

Opticians and lens grinders work in conjunction with each other to make eyeglasses and contact lenses.

Opticians fill the prescriptions that their customers receive from ophthalmologists. They determine the size and style of eye-glasses that the customer desires, write work orders for ophthalmic laboratory technicians, and adjust finished glasses to fit the customer. If the customer has ordered contact lenses, opticians measure the corneas of their customer's eyes and prepare specifications to be followed by the contact lens manufacturer.

Using precision instruments, lens grinders follow the instructions that they receive from opticians to prepare lenses that will fit both the ophthalmologist's prescription and the specifications that are necessary to make the lenses fit the customer's choice of eyeglass frames. In small shops, one person may do the work of the optician as well as the work of the lens grinder.

EMPLOYMENT OPPORTUNITIES

Opportunities in this field will be best during the 1980's for people who have had formal training in opticianry. Competition will be stiff for people who lack such training.

It is expected that demand for corrective lenses will increase as the general population grows and as the proportional size of the elderly population grows.

HIRING REQUIREMENTS

Employers prefer that opticians have an associate's degree in opticianry. Two to four years of on-the-job training in an apprenticeship program is, however, an alternative means of learning the necessary skills. In Massachusetts, opticians must be licensed. Lens grinders acquire their training through a three to four year apprenticeship program.

CLASSIFICATION CODES

DOT: 716.280-014, 716.382-018
USOE: 07.0600, 17.2100
CENSUS: 506

34. Other Secretaries

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
106,749	7,830	8.5%	\$9,570/yr.

NATURE OF WORK

Secretaries often act as the center of communications in an organization. By typing, scheduling appointments, dealing with callers, taking shorthand, filing, routing mail, answering mail, and contributing to office research and report writing, secretaries frequently determine the efficiency with which an organization operates. In addition to employing people for general secretarial positions, many firms or organizations also employ secretaries for specialized jobs, such as that of the administrative secretary, the social secretary, or the school secretary.

EMPLOYMENT OPPORTUNITIES

Nationally, employment of secretaries is expected to increase faster than the average for all occupations through the 1980's because of growth in business activity. Massachusetts projections confirm this finding. Although the automation of many routine clerical jobs is eliminating the need for people to perform many of the tasks that have traditionally been performed by secretaries, secretaries' organizational skills and their ability to deal with the public are still proving to be indispensable.

HIRING REQUIREMENTS

At a minimum, graduation from high school is generally required for a job as a secretary. Ideally, applicants should have additional secretarial training from a college or private business school. Such training provides the applicant with instruction in typing, basic shorthand, word processing, and other specialized skills.

CLASSIFICATION CODES

DOT: 201.362-030
USOE: 14.0700, 14.0702
CENSUS: 372

35. Painters and Apprentices

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
11,689	770	7.3%	\$5.26/hr.

NATURE OF WORK

Painters apply paint, varnish, and other finishes to building surfaces. They prepare surfaces for painting by sanding, scraping, cleaning, and patching the area to be painted, as needed. They may erect scaffolding in order to do their work.

In addition to utilizing the skills that are required to properly prepare and paint surfaces, painters must employ a knowledge of the properties of paint and color harmony. They must mix paints, match colors and make decisions based upon the paint's durability and ease of handling.

EMPLOYMENT OPPORTUNITIES

Although the demand for painters fluctuates in response to economic and seasonal changes, the job prospects throughout the 1980's are expected to be good.

HIRING REQUIREMENTS

Ideally, candidates for painter jobs should have completed a formal apprenticeship program. Typically these programs consist of 3 years of on-the-job training, in addition to 144 hours of annual classroom instruction.

Many painters learn their trade through informal instruction by working as helpers to experienced painters.

CLASSIFICATION CODES

DOT: 840.381-010
USOE: 17.1005, 17.2399
CENSUS: 510, 511

36. Personnel & Labor Relations Workers

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
8,751	370	4.5%	\$12,619/yr.

NATURE OF WORK

Personnel and labor relations workers strengthen the link between management and employees by assisting management to make effective use of employees' skills and by helping employees to find satisfaction in their jobs and working conditions. In small offices a staff of one or two personnel officers may undertake all of the duties that arise in this field. In large organizations, however, there is a division of labor between personnel work and labor relations work. Personnel workers interview, select, and recommend applicants to fill job openings; they also handle wage and salary administration, training and career development, and employee benefits. Labor relations workers help in the preparations for collective bargaining sessions, participate in contract negotiations with unions, and handle day to day labor relations matters.

EMPLOYMENT OPPORTUNITIES

The number of personnel and labor relations workers is expected to grow about as fast as the average for all occupations through the 1980's. Competition for these positions will, however, probably be keen. As in the past, it will be particularly difficult to break into the field of labor relations. People who have a master's degree or a strong undergraduate major in industrial relations, economics or business and people who have a law degree will be best prepared to compete for jobs in personnel and labor relations.

HIRING REQUIREMENTS

There is no single set of requirements or any particular course of education that is necessary for employment as a personnel or labor relations worker. People hired for entry level positions in either of these subfields are typically provided with considerable on-the-job training. As a rule, however, a college degree with a major in personnel administration, industrial and labor relations, or liberal arts is highly desirable for people who wish to work in personnel. People who wish to work in labor relations will find that courses in industrial relations and/or a law degree in addition to undergraduate work of this type will be an asset.

CLASSIFICATION CODES

DOT: 166.267-010, 166.117-010
USOE: 04.1900, 14.0400, 14.0600
CENSUS: 056

37. Photographic Process Workers

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
3,685	250	8.1%	\$6.25/hr.

NATURE OF WORK

Photographic process workers develop film from amateur snapshots, home movies, professional portraits, and other types of photographs. They make prints or slides and they perform related tasks, such as enlarging and retouching photographs.

Some photographic process workers perform all of the tasks that are necessary to develop and print film. Others work only on specific processes or only on specific types of equipment. For example, some people work as color-laboratory technicians, specializing in the processing of color film. Some people work as developers, while others work as print washers, projection printers, or photograph retouchers. And some people work with devices that automate the developing process.

EMPLOYMENT OPPORTUNITIES

Employment in photo lab occupations is expected to increase faster than the average for all occupations through the 1980's. Employment of photographic process workers is not, however, expected to grow as fast as the demand for film processing, because of the growing popularity of self-processing instant cameras and the increasing automation of photo lab operations.

HIRING REQUIREMENTS

Employers usually provide on-the-job training to people who are hired to fill entry level positions. The time that is necessary for that training varies considerably, depending upon the number of skills the employee needs and wishes to acquire. Technicians for some jobs can be trained in as little as a few weeks. On the other hand, it takes about three years to be trained as a fully qualified all-round darkroom technician. An associate's degree or other formal training can be helpful in obtaining supervisor or managerial positions.

CLASSIFICATION CODES

DOT: 976.487-010

USOE: 14.0300, 17.0900

CENSUS: 645

38. Plumbers and Pipefitters

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
11,404	730	7.4%	\$5.98/hr.

NATURE OF WORK

Plumbers and pipefitters install, maintain, alter, and repair pipe systems that carry water, steam, air, or other liquids or gases. Workers can choose to work in both plumbing and pipefitting or they can specialize in only one of the two crafts. Plumbers work with water, gas, and waste disposal systems in homes, schools, factories, and other buildings. Pipefitters install both high-and-low pressure pipes for use in industrial and commercial processes, such as the complex pipe systems in oil refineries and in chemical processing and nuclear power plants.

EMPLOYMENT OPPORTUNITIES

Employment of plumbers and pipefitters is expected to grow as fast as the average for all occupations through the 1980's. In particular growth in this occupation is expected to be related to growth in the construction industry. Increased use of central air-conditioning systems, solar heating systems and kitchen waste disposals should also generate new employment opportunities.

HIRING REQUIREMENTS

Many people learn plumbing and pipefitting by working for several years as a helper. Apprenticeship programs, however, are the best means of learning the skills necessary for these trades.

Most apprenticeship programs are sponsored through union-management agreements. Usually, they consist of 4 years of on-the-job training and at least 216 hours annually of related classroom instruction. Some communities require that plumbers and pipefitters be licensed.

CLASSIFICATION CODES

DOT: 862.381-030, 862.381-018

USOE: 17.1007

CENSUS: 522, 523

39. Practical Nurses

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
24,403	1,940	9.3%	\$3.72/hr.

NATURE OF WORK

Practical nurses work under the supervision of physicians and registered nurses to help care for the physically or mentally ill and the handicapped. They provide nursing care that requires technical knowledge, but not the professional education and training of a registered nurse.

Practical nurses work in many settings: hospitals, private homes, doctor's offices, clinics, and other health care organizations. Typically, they provide much of the day to day patient care. They take and record temperatures and blood pressures, change dressings, administer some kinds of prescribed medicines, and help patients with bathing and other personal hygiene. If they are working in a patient's home, they may also prepare meals and teach family members how to perform simple nursing tasks. In doctor's offices and clinics they may make appointments and record information about patients.

EMPLOYMENT OPPORTUNITIES

The employment outlook for practical nurses is expected to be very good in the 1980's. In addition to the need to replace those who leave the labor force each year, there will be a need for more practical nurses to care for the growing population of elderly people and to provide the additional health care that results from expansion in public and private health insurance plans.

HIRING REQUIREMENTS

Some positions require that practical nurses be licensed, others do not. Programs in practical nursing generally last one year and include both classroom study and clinical practice. Programs of this type are offered by trade, technical, and vocational schools, as well as by junior colleges, local hospitals, health agencies, private educational institutions and the Armed Services.

CLASSIFICATION CODES

DOT: 079.374-014

USOE: 07.0302, 07.0904

CENSUS: 926

40. Purchasing Agents

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
6,785	480	8.4%	\$15,519/yr.

NATURE OF WORK

Purchasing agents obtain and maintain the materials, supplies, and equipment that are necessary for the operation of the firm in which they work. Unlike buyers, purchasing agents buy goods for direct use by the firm, rather than for resale.

It is the responsibility of the purchasing agent in a company to determine when supplies need to be ordered, to select suppliers who offer the best value, to place orders, and to make sure that the goods received meet the desired specifications. In order to facilitate this process, the purchasing agent must develop good business relationships with suppliers and stay in close touch with other employees in the various departments of their own organizations. In large firms the purchasing needs may be so great and so varied that purchasing agents specialize, taking responsibility for specific groups of related commodities.

EMPLOYMENT OPPORTUNITIES

Employment prospects for purchasing agents are expected to be good during the 1980's, particularly for persons who have a master's degree in business administration. As the complexity of manufacturing processing grows, there will be a need for persons with a technical background to select highly technical goods for firms. Many opportunities are also expected in firms providing business and professional services.

HIRING REQUIREMENTS

Most employers prefer to hire candidates with a college degree for entry level positions. In large firms with complex or technical purchasing needs a master's degree in business administration is a definite asset. Smaller firms often require only either a bachelor's degree or an associate's degree. Almost all firms provide a training program to new purchasing agents.

CLASSIFICATION CODES

DCT: 162.157-038

USOE: 01.0400, 01.0700, 04.0100, 14.0800

CENSUS: 225

41. Radio and Television Repairers

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
3,441	210	7.2%	\$5.30/hr.

NATURE OF WORK

Television and radio technicians repair many types of home electronic products. For example, they repair radios, television sets, stereo components, tape recorders, video tape machines, and car radios. Using testing devices such as voltmeters, oscilloscopes, and signal generators, radio and television repairers look for the source of trouble in equipment that is malfunctioning. Then, they make repairs by replacing faulty parts or making adjustments.

Some radio and television repairers make service calls to customers' homes. If they are self-employed, radio and television repairers also order equipment and supplies, keep records, and supervise other technicians.

EMPLOYMENT OPPORTUNITIES

Employment of television and radio service technicians is expected to increase faster than the average for all occupations through the 1980's. In addition to the demand for technicians to replace people who leave the labor force or change occupations, it is expected that there will be a need for an expanded supply of radio and television technicians to service the country's steadily growing numbers of television sets, radios, and other home entertainment equipment.

HIRING REQUIREMENTS

Employers usually require that entry level applicants have completed training in electronics. High schools, private vocational schools, and junior colleges offer programs that provide training of this type.

New television and radio repairers usually begin by working under the supervision of an experienced worker. In some cases they receive in-house training on specific types of equipment. In Massachusetts radio and television technicians must take an examination to be licensed. The examination is administered by the State Board of Registration, which comes under the Office of Consumer Affairs.

CLASSIFICATION CODES

DOT: 720.281-018

USOE: 17.0400, 17.1400, 17.1503

CENSUS: 485

42. Radiologic Technologists

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
3,285	210	7.4%	\$11,064/yr.

NATURE OF WORK

Radiologic technologists (or radiographers) operate radiologic equipment and take X-ray pictures, usually under the supervision of physicians who specialize in the use of radiographs. It is the job of the radiologic technologist to prepare and position patients, so that the correct parts of the body can be radiographed; to adjust the machinery, so that the patient will receive the correct exposure; to operate radiographic machinery; to prepare and maintain patient records and in some cases to maintain files, schedule appointments, and prepare work schedules for assistants. Some radiologic technicians specialize in X-ray technologies, while others specialize in either radiation therapy or nuclear medicine technology.

EMPLOYMENT OPPORTUNITIES

The field of radiologic technologies is expected to be very competitive during the 1980's. The nationwide demand for radiologic technicians is increasing faster than the average for all occupations. However, the number of graduates from AMA-accredited programs in this field is growing rapidly.

HIRING REQUIREMENTS

People seeking employment as radiologic technologists must have completed formal education in radiography. Programs accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association are offered by hospitals, medical schools affiliated with hospitals, colleges, and universities. The necessary education may also be obtained in the military service or through vocational or technical schools. Programs vary in length from 2 to 4 years and may award a bachelor's degree in radiologic technology. Radiologic technologists who have completed 4 year programs and/or pursued advanced training leading to registration with the American Registry of Radiologic Technologists or certification are most likely to receive the highest salaries and to be chosen for the most skilled positions.

CLASSIFICATION CODES

DOT: 078.362-026

USOE: 07.0501, 07.0503

CENSUS: 083

43. Real Estate Agents, Brokers

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
13,004	1,090	9.4%	\$12,241+/yr.

NATURE OF WORK

Real estate agents and brokers sell and lease property for property owners. After collecting listings of residential, commercial, industrial, or other types of property, agents and brokers act as intermediaries between property owners and prospective buyers or tenants. Depending upon the nature of the transaction, brokers and agents may make property appraisals, develop new building projects, arrange for loans to finance purchases, arrange for title searches, and set up meetings between buyers and sellers. Brokers may also manage properties, supervise their own offices, advertise properties, and handle other related business matters.

EMPLOYMENT OPPORTUNITIES

Employment of real estate agents and brokers is expected to rise faster than the average for all occupations through the 1980's. During periods of declining economic activity and tight credit, the employment market is likely to be tight. Overall, however, because there is an increasing population of geographically mobile young adults with careers and families, it is predicted that there will be an increasing rate of demand for housing and, thus, for real estate agents and brokers.

HIRING REQUIREMENTS

Real estate brokers and agents must be licensed. Brokers must complete a course of classroom instruction, undergo a period of training and pass a written exam. The requirements for people who wish to be employed as a salesperson, working under the supervision of a licensed broker, are similar, but less extensive.

CLASSIFICATION CODES

DOT: 250.357-018

USOE: 04.1700, 17.2802

CENSUS: 270

44. Receptionists

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
12,418	910	8.2%	\$8,400/yr.

NATURE OF WORK

Receptionists greet people who visit their firm or organization. Depending upon where they work, the day-to-day duties of receptionists vary considerably. For example, in hospitals and doctor's offices they may obtain personal and financial information. Or, in factories and large business firms they may provide callers with identification cards and arrange escorts to take them to the proper office. Typically, receptionists keep records of callers and appointments, type, file, operate switchboards, sort mail, distribute messages, and perform other routine clerical tasks.

EMPLOYMENT OPPORTUNITIES

Employment of receptionists is expected to grow faster than the average for all occupations through the 1980's. Because strong growth in business firms and the professions is expected, the outlook is particularly good for applicants seeking work in these sectors.

HIRING REQUIREMENTS

Although a college degree can be helpful when seeking promotions to better paying office jobs, employers do not usually require more than a high school education. Courses in English, spelling, typing, elementary bookkeeping and business practices can be useful. It is perhaps most important, however, that applicants enjoy dealing with the public and handling a variety of situations without close supervision.

CLASSIFICATION CODES

DOT: 237.367-038

USOE: 04.1800, 14.0400, 14.0406

CENSUS: 364

45. Registered Nurses

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
45,287	2,640	6.4%	\$13,460/yr.

NATURE OF WORK

Nurses play an important role in the care and treatment of patients. Working under the supervision of physicians, nurses provide a wide variety of medical services, such as observing, evaluating, and recording patient progress, administering medications, and assisting in the rehabilitation of patients.

Nurses are employed in many different settings. For example, they work in hospitals, clinics, doctor's offices, large offices or plants, and schools. In addition, nurses are employed to teach nursing skills to other medical personnel.

EMPLOYMENT OPPORTUNITIES

Employment opportunities will be best for nurses who have a bachelor's degree. The overall demand for nurses is expected to increase at a faster than average rate in Massachusetts during the 1980's. Openings will be most numerous in large hospitals in urban areas and for evening and night-time shifts.

HIRING REQUIREMENTS

At a minimum, nurses should have received either a two year diploma (associate's degree) or a three year diploma in order to compete for entry level positions. Ideally, they should have a bachelor's degree.

In Massachusetts all nurses must pass the state nursing boards and be registered in Massachusetts. While awaiting the board results, nurses can be hired on a provisional basis.

CLASSIFICATION CODES

DOT: 075.374-010

USOE: 07.0301

CENSUS: 075

46. Shipping and Receiving Clerks

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
18,988	900	5.1%	\$8,000/yr.

NATURE OF WORK

Shipping and receiving clerks oversee the transfer of goods between businesses and their customers and suppliers.

Shipping clerks are responsible for all shipments that are to leave their place of business. Typically, shipping clerks check to make sure that orders have been properly filled, prepare material for shipment, place address labels on packages, keep records of shipping costs, and prepare invoices.

Receiving clerks take responsibility for shipments that are sent to their place of business. They verify incoming shipments against the original order and the accompanying bill of lading or invoice. They make sure that the materials are routed to the appropriate destination within their company. And they arrange for adjustments with shippers when merchandise is damaged or lost.

EMPLOYMENT OPPORTUNITIES

Employment of shipping and receiving clerks is expected to increase about as fast as the average for all occupations through the 1980's. The rate of growth in this occupation will depend largely upon the rate of growth that occurs in manufacturing and trade and upon the extent to which firms rely upon automated devices, such as conveyor belts and computers, to process shipments and maintain inventories.

HIRING REQUIREMENTS

Employers prefer that candidates for entry level positions have a high school diploma. New employees are usually given on-the-job training by an experienced worker. Some training in business arithmetic, typing, and other high school business subjects may be helpful.

Working as a shipping or receiving clerk can lead to promotions within the company, because it gives the employee an opportunity to become familiar with the firm's products and business practices.

CLASSIFICATION CODES

DOT: 222.387-050
USOE: 04.0609, 14.0303, 14.0400
CENSUS: 374

47. Therapists

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
5,330	360	7.8%	\$12,770/yr.

NATURE OF WORK

Therapists play an important part in helping injured, disabled, or emotionally disturbed persons recover to the fullest extent possible. There are a number of specialties within this occupation, including occupational therapist, industrial therapist, physical therapist, recreational therapist, etc.

Therapists usually play a part in the post disability period of a patient's life by providing, for example, personal or vocational guidance. They may also be concerned with able bodied persons and work in a capacity designed to prevent physical and emotional abnormalities in potentially troubled individuals.

EMPLOYMENT OPPORTUNITIES

Employment opportunities for this occupation are projected to grow faster than the national average for all occupations. In Massachusetts, the growth will be relatively faster because of the large number of hospitals and health facilities in the state.

HIRING REQUIREMENTS

This field is noted as being highly competitive and requires a minimum of a bachelor's degree. In many fields of therapy, state certification is also a prerequisite to practice.

CLASSIFICATION CODES

DOT: 076.167-010, 079.361-010, 076.361-010, 076.121-014
USOE: 07.0304, 07.0401, 07.0402
CENSUS: 076

48. Tool and Die Makers

1980 Employment	Projected Annual Openings	Projected Annual Openings Rate	Average Entry Wages
6,883	340	5.3%	\$6.16/hr.

NATURE OF WORK

Tool and die makers are among the most skilled of all machinery workers. Toolmakers produce jigs and fixtures, gauges, and other measuring devices that are used in manufacturing precision metal parts. Die makers construct metal forms to shape metal in stamping and forging operations and make metal molds for die casting and for molding plastics. Both tool and die makers also repair the metal parts they produce.

Like all machinists, tool and die makers must use knowledge of machining operations, mathematics, and blueprint reading. They must use almost every type of machine tool and precision measuring instrument; and they must be familiar with the machinery properties of a wide variety of metals and alloys. Tool and die making positions differ from those of machinists in that they require broader knowledge of the machinist's skills.

EMPLOYMENT OPPORTUNITIES

Job opportunities for tool and die makers are expected to be considerable during the 1980's because of a need to replace older workers in this occupation who are reaching retirement age.

According to a recent survey, Massachusetts' employers are having difficulty filling positions for tool and die makers.

HIRING REQUIREMENTS

Ideally, tool and die makers should have completed a 4 year apprenticeship program. In addition, Massachusetts' employers often require candidates to have 5 to 10 years experience in order to be considered a qualified tool and die maker.

CLASSIFICATION CODES

DOT: 601.280-046

USOE: 17.2302, 17.2307, 17.3400

CENSUS: 561, 562

49. Truck Drivers

1980 Employment	Projected Annual Openings	Annual Openings Rate	Average Entry Wages
32,209	1,020	3.3%	\$4.47/hr.

NATURE OF WORK

Truck drivers transport goods from one site to another. Local truck drivers typically pick up goods from factories, consolidate cargo at terminals, and make final deliveries to stores and homes in the area. Long-distance truck drivers drive the largest and most expensive equipment and carry goods between terminals that are hundreds, or even thousands, of miles apart. Long-distance truck drivers often work in pairs, driving 24 hours a day and alternating shifts at sleeping and driving.

Some truck drivers work independently. Others work for trucking companies that serve many different businesses. And others work solely for one industry.

EMPLOYMENT OPPORTUNITIES

Nationally, employment of both local and long-distance truck drivers is expected to grow about as fast as the average for all occupations through the 1980's. The number of openings available each year will fluctuate from year to year with general business conditions. Thus, experienced drivers with good driving records will fare best in the competition for jobs.

HIRING REQUIREMENTS

Hiring requirements for truck drivers vary considerably.

Local truck drivers usually begin as dockworkers, loading freight and driving the trucks around the year. Or alternatively, they may be hired as a truck driver's helper. Most states require that local truck drivers have a chauffeur's license.

Long distance truck drivers must meet minimum qualifications, if they are going to be engaged in interstate commerce. They must pass a road test. They must take a written examination on the Motor Carrier Safety Regulations of the U.S. And, in most states they must have a chauffeur's license.

CLASSIFICATION CODES

DOT: 905.663-014
USOE: 17.1003
CENSUS: 715

50. Waitresses and Waiters

1980 Employment	Projected Annual Openings	Openings Rate	Average Entry Wages
43,020	2,170	5.4%	\$3.34/hr.

NATURE OF WORK

Waitresses and waiters take customers' orders, serve food and beverages, make out checks and sometimes take payments. In fast food restaurants the key to being able to do this well is efficiency. Many customers must be served quickly and their orders must be filled correctly. In larger restaurants customers usually prefer to be allowed to eat in a more leisurely fashion. Thus, it is essential that waitresses and waiters emphasize personal service to their customers.

Depending upon the size and type of restaurant, waitresses and waiters may also set up tables, clear tables, act as cashier, or wait on a counter as well as on tables.

EMPLOYMENT OPPORTUNITIES

Employment opportunities for waitresses and waiters are expected to be ample during the 1980's. People seeking entry level positions will do best by applying for work at informal restaurants or by applying for part-time work. Competition for jobs in expensive restaurants will be keen for applicants who lack experience in this line of work.

HIRING REQUIREMENTS

In general, employers prefer to hire applicants who have completed at least two or three years of high school. Most waitresses and waiters receive their training on the job.

The larger or more expensive restaurants usually prefer to hire applicants who have had at least three months' experience.

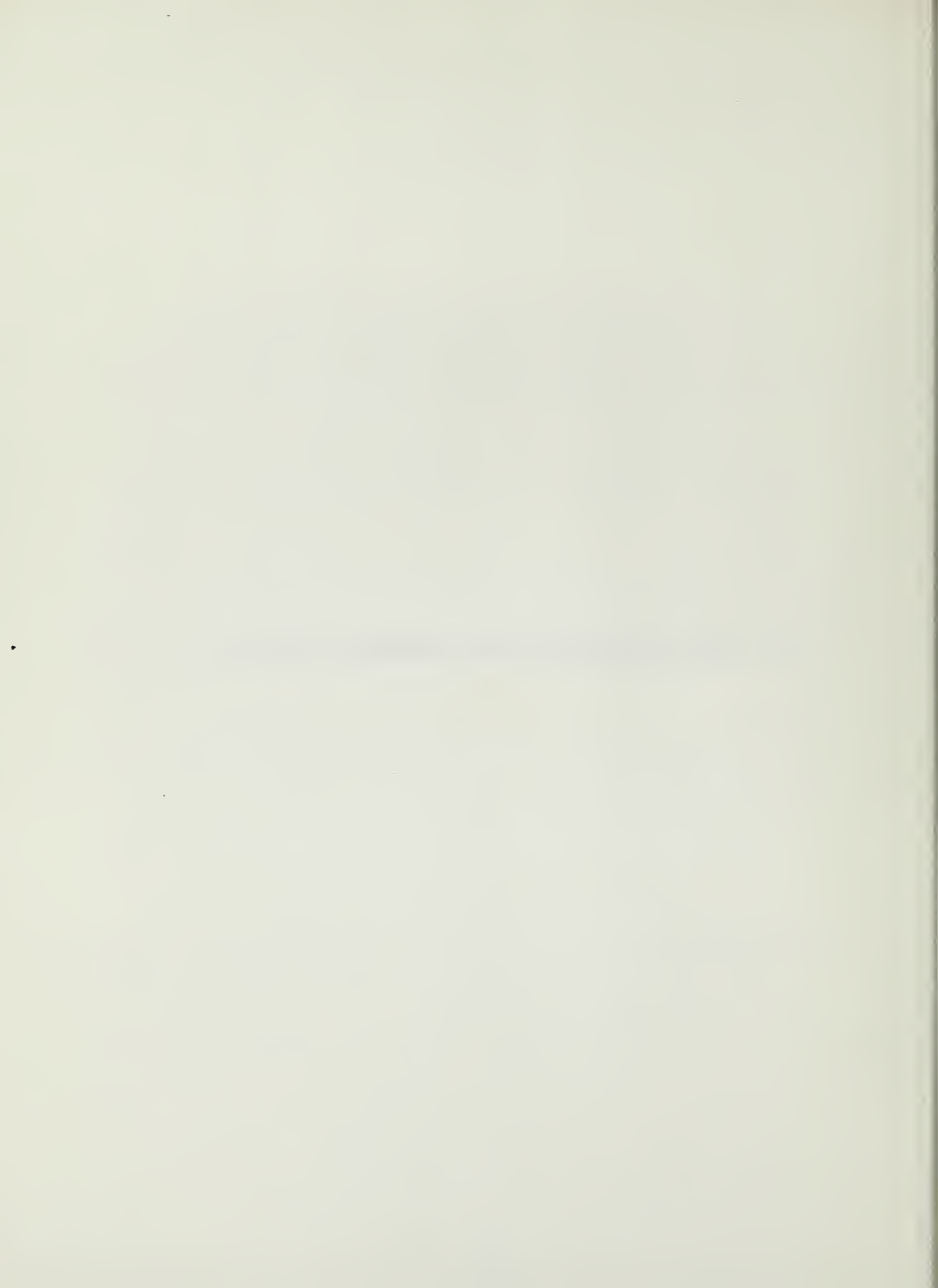
Some restaurants also train waitresses and waiters in simple food preparation.

CLASSIFICATION CODES

DOT: 311.477-030
USOE: 04.0700, 04.1900, 17.2900
CENSUS: 915



IV. DISTRIBUTION OF OCCUPATIONAL EMPLOYMENT BY INDUSTRY



INTRODUCTION

This section is intended to supplement the previous section on the characteristics of occupations. It will enable you to examine the major industries in which a particular occupation is concentrated and thereby make the job search or job development process easier. The occupations are arranged in the same sequence as in Section III and the leading industries are ranked beneath each occupation. The number on the left of each industry category is the Standard Industrial Classification (SIC) code. The number to the right represents the percentage of individuals in a given occupation who work in a particular industry.

For example, of all the Medical Secretaries employed in 1980 (8,056), 52.5% worked in Offices of Physicians. Another 34.6% worked in Hospitals. These two industries alone accounted for over 87% of total employment in this occupation. Naturally, anyone exploring employment opportunities in this particular occupation should concentrate his or her efforts in these two major industries.

In some occupations, employment is not as concentrated. Personnel and Labor Relations positions are found in a broad array of industries and the list of leading industries only accounted for 37.5% of the total estimated employment in this occupation in 1980. Since employment for this occupation is not as concentrated as it is for other occupations, the job search or job development process will involve a more random selection of firms and industries.

1.	<u>Air Conditioning, Heating and Refrigeration Mechanics</u>	<u>Total Employment:</u> 6,897
598	Fuel & Ice Dealers	23.9%
17	Special Trade Contractors	21.2%
521-524	Lumber & Bldg. Materials - Retail	8.4%
762, 7694	Electrical Repair Shops	6.7%
763/4,	Other Repair Services	5.4%
	<u>% of Total Employment in Listed Industries</u>	<u>65.6%</u>
2.	<u>Assemblers</u>	<u>Total Employment:</u> 41,414
361/2, 367, 369	Electrical Machinery, N.E.C.*	23.4%
365/6	Radio, TV, Communications Equipment	6.9%
355/6 358/9	Machinery, N.E.C.	6.8%
19	Ordinance	5.9%
39	Misc. Manufacturing	4.7%
	<u>% of Total Employment in Listed Industries</u>	<u>47.7%</u>
3.	<u>Bank, Financial Managers</u>	<u>Total Employment:</u> 15,415
60	Banks	61.0 %
61	Credit Agencies	24.2 %
	<u>% of Total Employment in Listed Industries:</u>	<u>85.2 %</u>

*N.E.C. Not Elsewhere Classified

4. BookkeepersTotal Employment: 50,060

60	Banking	5.0 %
63/64	Insurance	4.2 %
58	Eating and Drinking Places	3.0 %
531/532	Dept. and Mail Order Establishments	2.6 %
541	Grocery Stores	2.3 %
17	Special Trade Contractors	2.1 %
551/552	Motor Vehicle Dealers	2.1 %
521-524	Lumber & Building Material Retailing	2.0 %
508	Machinery Equipment Supplies	1.9 %
806	Hospitals	1.9 %
65/66	Real Estate, inc. Insurance & Law Offices	1.8 %
56(exc.566)	Apparel & Accessory Stores exc. Shoe Stores	1.7 %

% of Total Employment in Listed Industries 46.9 %

5. Buyers, Wholesale and RetailTotal Employment: 6,236

531	Department Stores	21.4 %
56	Apparel & Accessory Stores	9.9 %
541	Grocery Stores	6.0 %
508	Machinery, Equipment & Supplies	5.3 %
514	Food & Related Products	4.3 %

% of Total Employment in Listed Industries: 46.9 %

6. Carpenters and ApprenticesTotal Employment: 25,625

15	General Bldg. Contractors	40.8%
17	Special Trade Contractors	35.3%
16	General Contractors, exc. Bldgs.	2.4%
806	Hospitals	1.9%
65/6	Real Estate, inc. Insurance & Law Offices	1.8%

% of Total Employment in Listed Industries 82.2%

<u>SIC CODES</u>	<u>OCCUPATIONS & MAJOR INDUSTRIES</u>	<u>PERCENT OF EMPLOYMENT BY INDUS</u>
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7.	<u>Child Care Workers</u>	<u>Total Employment:</u> 5,740
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821	Elementary & Secondary Schools	33.9%
702-704	Lodging Places, exc. Hotels & Motels	14.7%
806	Hospitals	13.3%
822	Colleges and Universities	8.8%
868	Religious	6.8%

<u>% of Total Employment in Listed Industries</u>	<u>77.5%</u>
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8.	<u>Clinical Lab Technicians</u>	<u>Total Employment:</u> 7,551
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806	Hospitals	80.2%
807 pt.*8099	Health Services, N.E.C.	13.3%
801,803	Offices of Physicians	2.9%
822	Colleges & Universities	1.6%

<u>% of Total Employment in Listed Industries</u>	<u>98.0%</u>
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9.	<u>Computer Programmers</u>	<u>Total Employment:</u> 10,196
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3573	Electronic Computing Equipment	12.3%
63/4	Insurance	12.2%
pt.7392	Business Management & Consulting Services	11.5%
822	Colleges & Universities	8.6%
60	Banking	5.7%

<u>% of Total Employment in Listed Industries</u>	<u>50.3%</u>
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*pt: Part of

10.	<u>Computer Service Technologists</u>	<u>Total Employment: 2,407</u>
3573	Electronic Computing Equipment	27.5%
508	Machinery, Equipment and Supplies	22.6%
pt. 7392	Business Management & Consulting Services	9.1%
732/3, 735	Other Misc. Business Services	7.2%
762, 7694	Electrical Repair Shops	4.3%
	<u>% of Total Employment in Listed Industries</u>	<u>70.7%</u>
11.	<u>Computer Systems Analysts</u>	<u>Total Employment: 6,083</u>
3573	Electronic Computing Equipment	16.2%
pt. 7392	Business Management & Consulting Services	11.2%
63/4	Insurance	9.1%
60	Banking	5.0%
361/2, 364	Electrical Machinery, N.E.C.	4.8%
	<u>% of Total Employment in Listed Industries</u>	<u>46.3%</u>
12.	<u>Cooks</u>	<u>Total Employment; 26,770</u>
581	Eating and Drinking Places	64.3%
821	Elementary and Secondary Schools	9.2%
8092	Convalescent Institutions	6.1%
806	Hospitals	5.6%
801	Hotels and Motels	2.8%
	<u>% of Total Employment in Listed Industries</u>	<u>88.0%</u>

13.	<u>Dental Assistants</u>	<u>Total Employment:</u> 5,103
802	Offices of Dentists	95.7%
807 pt. 8099	Health Services, N.E.C.	1.8%
806	Hospitals	1.0%

<u>% of Total Employment in Listed Industries</u>	<u>98.5%</u>
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14.	<u>Dental Hygienists</u>	<u>Total Employment:</u> 2,366
802	Offices of Dentists	88.5%
807 pt. 8099	Health Services, N.E.C.	6.9%
821	Elementary & Secondary Schools	2.1%

<u>% of Total Employment in Listed Industries</u>	<u>97.5%</u>
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15.	<u>Drafters</u>	<u>Total Employment:</u> 14,510
891	Engineering & Architectural Services	18.6%
361/2,364 367,369	Electrical Machinery, N.E.C.	10.6%
355/6,358/9	Radio, TV Communications Equipment	6.9%
355/6, 358/9	Machinery, N.E.C.	6.8%
386	Photo Equipment & Supplies	4.4%

<u>% of Total Employment in Listed Industries</u>	<u>47.3%</u>
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<u>C CODES</u>	<u>OCCUPATIONS & MAJOR INDUSTRIES</u>	<u>PERCENT OF EMPLOYMENT BY INDUSTRY</u>
	16. <u>Electrical Engineers</u>	<u>Total Employment:</u> 18,437
61/2,264 67,369	Electrical Machinery, N.E.C.	24.0%
65/6	Radio, TV, Communications Equipment	17.3%
573	Electronic Computing Equipment	7.9%
81	Telephone (Wire & Radio)	7.7%
91	Engineering and Architectural Services	7.2%
	<u>% of Total Employment in Listed Industries</u>	<u>64.1%</u>
	17. <u>Electricians and Apprentices</u>	<u>Total Employment:</u> 14,501
7	Special Trade Contractors	52.6%
91	Electric Light and Power	5.0%
61/2, 364 67,369	Electrical Machinery, N.E.C.	3.1%
6	Hospitals	2.5%
86	Photo Equipment & Supplies	1.8%
	<u>% of Total Employment in Listed Industries</u>	<u>65.0%</u>
	18. <u>Electronic Technicians</u>	<u>Total Employment:</u> 13,832
1/2,364 7, 369	Electrical Machinery, N.E.C.	21.8%
5/6	Radio, TV, Communications Equipment	14.8%
73	Electronic Computing Equipment	13.0%
2	Colleges & Universities	4.2%
1/2	Scientific Instruments	3.6%
	<u>% of Total Employment in Listed Industries</u>	<u>57.4%</u>

19.	<u>Excavating & Grading Machine Operators</u>	<u>Total Employment: 4,340</u>
16	Gen. Contractors, exc. Bldgs.	60.6%
15	Gen. Building Contractors	11.6%
17	Special Trade Contractors	11.2%
9390	Local Public Administration	3.1%
14	Non-Metallic Mining & Quarrying exc. Fuels	1.9%
	<u>% of Total Employment in Listed Industries</u>	<u>88.4%</u>
20.	<u>Expeditors, Production Controllers</u>	<u>Total Employment: 8,750</u>
361/2,364 367,369	Electrical Machinery, N.E.C.	11.2%
365/6	Radio, TV, Communications Equipment	8.3%
355/6, 358/9	Machinery, N.E.C.	6.7%
381/2	Scientific Instruments	4.2%
19	Ordnance	4.2%
	<u>% of Total Employment in Listed Industries</u>	<u>34.6%</u>
21.	<u>Fork Lift Operatives</u>	<u>Total Employment: 5,989</u>
265	Paper Board Containers, Boxes	5.7%
541	Grocery Stores	4.7%
504	Food & Related Products	4.4%
361/2,364 367,369	Electrical Machinery, N.E.C.	4.4%
301-303, 306	Rubber Products	3.9%
208	Beverage Industries	2.7%
341, 343 347-349	Misc. Fabricated Metal Production	2.6%
328/9	Cust. Stone & Misc. Non-Metallic Products	2.6%
	<u>% of Total Employment in Listed Industries</u>	<u>31.0%</u>

22.	<u>Health Administrators</u>	<u>Total Employment:</u> 6,474
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806	Hospitals	53.9%
8092	Convalescent Institutions	26.3%
809	Health Services, N.E.C.	19.8%

% of Total Employment in Listed Industries: 100%

23.	<u>Health Aides</u>	<u>Total Employment:</u> 8,972
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806	Hospitals	75.9 %
801, 803	Offices of Physicians	7.9 %
8092	Convalescent Institutions	6.1 %
807 pt. 8099	Health Services, N.E.C.	4.0 %
802	Offices of Dentists	1.4 %

% of Total Employment in Listed Industries 95.3%

24.	<u>Heavy Equipment Mechanics</u>	<u>Total Employment:</u> 19,690
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19	Ordnance	5.9%
361/2, 364 367, 369	Electrical Machinery, N.E.C.	4.6%
508	Machinery Equipment & Supplies	4.5%
355/6, 358/9	Machinery, N.E.C.	4.4%
17	Special Trade Contractors	4.1%
39	Misc. Manufacturing	3.5%
264	Converted paper & paperboard products	3.4%
16	General Contractors, exc. Bldgs.	2.6%

% of Total Employment in Listed Industries 32.1%

<u>SIC CODES</u>	<u>OCCUPATIONS & MAJOR INDUSTRIES</u>	<u>PERCENT OF EMPLOYMENT BY INDUSTRY</u>
	25. <u>Industrial Engineers</u>	<u>Total Employment:</u> 9,839
361/2,364 367,369	Electrical Machinery, N.E.C.	13.9%
365/6	Radio, TV, Communications Equipment	7.9%
pt. 7392	Business Management and Consulting Services	5.8%
355/6 358/9	Machinery, N.E.C.	5.3%
19	Ordinance	5.0%
	<u>% of Total Employment in Listed Industries</u>	<u>37.9%</u>
	26. <u>Insurance Adjusters, Examiners</u>	<u>Total Employment:</u> 6,180
63/4	Insurance	95.0%
9290	State Public Administration	2.4%
732/3,735 7394/5/6	Other Misc. Business Services	1.2%
	<u>% of Total Employment in Listed Industries</u>	<u>98.6%</u>
	27. <u>Lathe Machine Operatives</u>	<u>Total Employment:</u> 3,408
355/6, 358/9	Machinery, N.E.C.	29.0%
361/2,364 367,369	Electrical Machinery, N.E.C.	9.2%
354	Metal Working Machinery	7.5%
19	Ordinance	7.5%
351	Engines & Turbines	7.1%
	<u>% of Total Employment in Listed Industries</u>	<u>60.3%</u>

SIC CODESOCCUPATIONS & MAJOR INDUSTRIESPERCENT OF EMPLOYMENT BY INDUSTRY28. Legal SecretariesTotal Employment: 5,146

81	Legal Services	86.5%
63/4	Insurance	3.0%
9290	State Public Administration	1.9%
806	Hospitals	1.0%
60	Banking	.8%

% of Total Employment in Listed Industries93.2%29. MachinistsTotal Employment: 17,357

355/6, 358/9	Machinery, N.E.C.	21.5%
354	Metal Working Machinery	8.1%
361/2, 364		
367, 369	Electrical Machinery	8.1%
342	Cutlery, Handtools & Hardware	3.6%
351	Engines & Turbines	3.5%

% of Total Employment in Listed Industries44.8%30. Managers, Superintendents of BuildingsTotal Employment: 2,868

65	Real Estate	84.9%
82	Educational Services	2.6%
70	Hotels & Lodging Places	1.4%

% of Total Employment in Listed Industries88.9%

31.	<u>Mechanical Engineers</u>	<u>Total Employment:</u> 8,972
355/6 358/9	Machinery, N.E.C.	12.0%
891	Engineering & Architectural Services	11.0%
361/2, 364	Electrical Machinery, N.E.C.	6.9%
365/6	Radio, TV, Communications Equipment	5.7%
3573	Electronic Computing Equipment	5.6%
	<u>% of Total Employment in Listed Industries:</u>	<u>41.2%</u>
32.	<u>Medical Secretaries</u>	<u>Total Employment:</u> 8,056
801, 803	Offices of Physicians	52.5%
806	Hospitals	34.6%
802	Offices of Dentists	4.2%
807 pt. 8099	Health Services, N.E.C.	1.9%
pt. 8099	Health Practitioners, N.E.C.	1.7%
	<u>% of Total Employment in Listed Industries</u>	<u>94.9%</u>
33.	<u>Opticians, Lens Grinders</u>	<u>Total Employment:</u> 2,493
383/4/5	Optical, Health Service Supplies	39.7%
593-595, 599 exc. 5992	Misc. Retail Trades	17.5%
508	Machinery Equipment & Supplies	15.0%
pt. 8099	Health Practitioners, N.E.C.	10.9%
386	Photo Equipment & Supplies	5.6%
	<u>% of Total Employment in Listed Industries</u>	<u>88.7%</u>

34.	<u>Other Secretaries</u>	<u>Total Employment:</u> 106,749
63/4	Insurance	7.9%
822	Colleges & Universities	6.9%
806	Hospitals	6.1%
821	Elementary & Secondary Schools	4.5%
801, 803	Offices of Physicians	3.0%
60	Banking	2.8%
	<u>% of Total Employment in Listed Industries</u>	<u>31.2%</u>

35.	<u>Painters and Apprentices</u>	<u>Total Employment:</u> 11,689
17	Special Trade Contractors	55.2%
806	Hospitals	4.3%
881	Private Households	4.0%
65/6	Real Estate, Inc. Insurance & Law Offices	3.5%
15	Gen. Bldg. Contractors	3.3%
	<u>% of Total Employment in Listed Industries</u>	<u>70.3%</u>

36.	<u>Personnel & Labor Relations Workers</u>	<u>Total Employment:</u> 8,751
9290	State Public Administration	11.8%
736, 7398	Employment Temporary Help	11.7%
63/4	Insurance	5.0%
pt.9190 9490	Federal Public Adm., Other	5.0%
481	Telephone (Wire and Radio)	4.0%
	<u>% of Total Employment in Listed Industries</u>	<u>37.5%</u>

SIC CODESOCCUPATIONS & MAJOR INDUSTRIESPERCENT OF EMPLOYMENT BY INDUSTRY

37.	<u>Photographic Process Workers</u>	<u>Total Employment:</u> 3,685
732/3, 735 7394/5/6, 7399	Other Misc. Business Services	46.6%
386	Photo Equipment & Supplies	10.5%
724, 726 pt.729	Other Personal Services	8.8%
272-279	Printing, Publishing, exc. News	6.9%
806	Hospitals	4.6%
	<u>% of Total Employment in Listed Industries</u>	<u>77.4%</u>

17	38. <u>Plumbers and Pipefitters</u>	<u>Total Employment:</u> 11,404
17	Special Trade Contractors	63.0%
521-524	Lumber & Bldg. Material,Retail	3.4%
16	Gen. Contractors, exc. Bldgs.	3.1%
15	Gen. Bldg. Contractors	2.7%
806	Hospitals	2.7%
	<u>% of Total Employment in Listed Industries</u>	<u>74.9%</u>

	39. <u>Practical Nurses</u>	<u>Total Employment:</u> 24,403
806	Hospitals	64.6%
8092	Convalescent Institutions	27.1%
807 pt. 8099	Health Services, N.E.C.	4.5%
801, 803	Offices of Physicians	1.0%
8099	Health Practitioners ,N.E.C.	.2%
	<u>% of Total Employment in Listed Industries</u>	<u>97.4%</u>

<u>SIC CODES</u>	<u>OCCUPATIONS & MAJOR INDUSTRIES</u>	<u>PERCENT OF EMPLOYMENT BY INDUSTRY</u>
40. <u>Purchasing Agents</u>		
		<u>Total Employment: 6,785</u>
369	Electric Machinery, N.E.C.	4.9%
806	Hospitals	4.6%
359	Machinery, N.E.C. (Except Electrical)	3.8%
372	Aircraft & Parts	2.8%
365	Radio, TV, Communication Equipment	2.6%
822	Colleges & Universities	2.3%
371	Motor Vehicle Equipment	1.9%
34	Fabricated Metal Products	1.7%
821	Elementary & Secondary Schools	1.7%
353	Construction & Related Machinery	1.6%
739	Misc. Business Services	1.6%
349	Misc. Fabricated Metal Products	1.4%
	<u>% of Total Employment in Listed Industries</u>	<u>30.9%</u>
41. <u>Radio and TV Repairers</u>		
		<u>Total Employment: 3,441</u>
767,7694	Electrical Repair Shops	26.8%
572/3	Household Appliances, TV & Radio Stores	24.7%
732/3, 735, 7394/ 5/6, 7399	Other Misc. Business Services	5.6%
pt. 9190, 9490	Federal Public Adm., Other	3.9%
365/6	Radio, TV, Communications Equipment	3.7%
	<u>% of Total Employment in Listed Industries</u>	<u>74.7%</u>
42. <u>Radiologic Technicians</u>		
		<u>Total Employment: 3,285</u>
306	Hospitals	81.6%
301, 803	Offices of Physicians	9.3%
307, pt. 8099	Health Services, N.E.C.	5.0%
302	Offices of Dentists	2.0%
	<u>% of Total Employment in Listed Industries</u>	<u>98.0%</u>

SIC CODESOCCUPATIONS & MAJOR INDUSTRIESPERCENT OF EMPLOYMENT BY INDUST

43. Real Estate Agents, Brokers Total Employment: 13,004

65/6 Real Estate, Inc. Insurance and
Law Offices 100.0%

% of Total Employment in Listed Industries 100.0%

44. Receptionists Total Employment: 12,418

806 Hospitals 18.6%

801 Offices of Physicians 7.5%

822 Colleges & Universities 7.4%

pt. 8099 Health Practitioners, N.E.C. 7.2%

802 Offices of Dentists 6.0%

% of Total Employment in Listed Industries 46.7%

45. Registered Nurses Total Employment: 45,287

806 Hospitals 70.0%

8092 Convalescent Institutions 10.8%

807 Health Services, N.E.C. 9.2%

pt. 8099

801, 803 Offices of Physicians 3.7%

821 Elementary & Secondary Schools 2.2%

% of Total Employment in Listed Industries 95.9%

<u>SIC CODES</u>	<u>OCCUPATIONS & MAJOR INDUSTRIES</u>	<u>PERCENT OF EMPLOYMENT BY INDUSTRY</u>
	46. <u>Shipping & Receiving Clerks</u>	<u>Total Employment:</u> 18, 988
531/2	Department and Mail Order Establishments	5.1%
5094, 5097 5099	Wholesalers, N.E.C.	3.9%
503	Dry Goods & Apparel	3.8%
231-238	Apparel & Accessories	3.4%
361/2, 364 367, 369	Electrical Machinery, N.E.C.	3.1%
272-279	Printing, Publishing Exc. News	3.0%
307	Misc. Plastic Products	2.7%
355/6 358/9	Machinery, N.E.C.	2.6%
421/3	Trucking Services	2.1%
504	Food and Related Products	2.1%
	<u>% of Total Employment in Listed Industries</u>	<u>31.8%</u>
	47. <u>Therapists</u>	<u>Total Employment:</u> 5,330
806	Hospitals	55.9%
807, pt. 8099	Health Services, N.E.C.	18.3%
821	Elementary & Secondary Schools	10.2%
8092	Convalescent Institutions	6.8%
pt. 867	Welfare Services	1.9%
	<u>% of Total Employment in Listed Industries</u>	<u>93.1%</u>

<u>SIC CODES</u>	<u>OCCUPATIONS & MAJOR INDUSTRIES</u>	<u>PERCENT OF EMPLOYMENT BY INDUSTRY</u>
	48. <u>Tool and Die Makers</u>	<u>Total Employment:</u> 6883
354	Metal Working Machinery	23.1%
355/6, 358/9	Machinery, N.E.C.	11.8%
361/2, 364 367, 369	Electrical Machinery	9.0%
342	Cutlery, Handtools & Hardwares	7.1%
19	Ordnance	6.7%
	<u>% of Total Employment in Listed Industries</u>	<u>57.7%</u>
	49. <u>Truck Drivers</u>	<u>Total Employment:</u> 32,309
421,423	Trucking Services	41.1%
16	Gen. Contractors, Exc. Bldgs.	7.2%
504	Food and Related Products	3.2%
598	Fuel & Ice Dealers	2.6%
495	Sanitary Services	2.2%
	<u>% of Total Employment in Listed Industries</u>	<u>56.3%</u>
	50. <u>Waitresses and Waiters</u>	<u>Total Employment:</u> 43,020
58	Eating and Drinking Places	87.5%
70	Hotels	8.5%
79	Misc. Amusement, Recreation Services	4.0%
	<u>% of Total Employment in Listed Industries</u>	<u>100.0%</u>

